STATE OF NEVADA

Nevada
DEPARTMENT
OF
EDUCATION

GRADE 3

Nevada

CRITERION REFERENCED TESTS

REVIEW GUIDE

999-8187-98-2

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INTRODUCTION

Purpose

The Criterion Referenced Tests (CRT), as mandated by legislation (Nevada Revised Statute 389.550), are designed to provide a means of measuring student academic achievement and proficiency in the Nevada State Content and Performance Standards. They are intended to help ensure that students are appropriately prepared in the curricula as set forth in the state standards. Unlike a norm-referenced test that is designed to compare an individual student, school, district, or state test score to an average score as determined by an entire test-taking population, the criterion-referenced test score is reported in terms of both group and individual student outcomes based on a pre-determined criterion of correct responses to measure proficiency and achievement levels.

This review guide is intended to be used by teachers, principals, and school districts as a supplemental tool — one that complements current efforts aimed at preparing students for the state proficiency examinations and/or remedial efforts based in part on student test performance. Each test includes only a portion of the curriculum content that students are expected to know. Although the guide provides a sampling of representative items for the CRT, the sample of items does not constitute a practice test and was not designed to provide "drill" activities.

Rationale and Philosophy

The Nevada comprehensive assessment system serves as an ongoing evaluative technique that allows monitoring of the extent to which students are acquiring necessary knowledge and skills. While necessary knowledge and skills may be characterized in multiple ways, they are primarily defined through the state content and performance standards that provide the basis of aligned curriculum and instructional practice.

Assessment can be viewed as multi-faceted. It can be considered as an objective monitoring tool that stands outside the triangle of standards, curriculum, and instruction. It can also be regarded as an integral aspect of curriculum and as an instructional tool. It may be that different assessment strategies can serve these multiple facets. If so, as is the case with standards, curriculum, and instruction, multiple forms of assessment, including varied large-scale assessments and site-based assessments, must be interlocked or aligned. As such, Nevada's assessment efforts are part of statewide systemic reform.

National Assessment of Educational Progress (NAEP)

Nevada is among the states that receive Title I funding and must therefore participate in state NAEP norm-referenced assessments in reading and mathematics at grades 4 and 8. A sample of Nevada students will be tested through the National Assessment of Educational Progress program in reading annually each spring from years 2002 to 2010 and in mathematics from 2003 to 2010. In addition, the NAEP science assessment will be given in years 2004 and 2008 and the writing assessment will be given in years 2002, 2006, and 2010. Information on these assessments may be obtained at http://nces.ed.gov/nationsreportcard/.

Norm-Referenced Assessment

The norm-referenced assessments, as described in Nevada Revised Statute 389.015, are administered annually each fall to every Nevada student in grades 4, 7, and 10. Subjects tested include reading/language arts, mathematics, science and social studies. The current testing contractor is Riverside Publishing Company, and it is responsible for the distribution and scoring of the Iowa Tests of Basic Skills in grades 4, 7, and 10.

(For more information go to http://www.riverpub.com/products/group/itbs_a/home.html) and the Iowa Tests of Educational Development in grade 10 (for more information, go to http://www.riverpub.com/products/group/ited_a/home.html).

Criterion-Referenced Assessment

The Nevada CRT program was initially mandated in 1999 and piloted in the 2000-2001 school year in mathematics and reading in the 3rd and 5th grades. The 5th grade science test and the 8th grade mathematics, reading, and science tests were field tested in the 2002-2003 school year. The test items are developed by Nevada teachers with the assistance of the Nevada Department of Education, Harcourt Educational Measurement Company, and the WestEd Regional Educational Laboratory. Nevada test items undergo a thorough review for alignment with Nevada Standards and for possible bias. Students will be tested in the spring within the testing window of March 15–April 15, 2004. Each test takes approximately 120 minutes and contains between 50 and 75 items. Ten to fifteen field test items, used for future test development, are embedded in the total item count number.

Since each form of assessment taken individually may serve a narrower purpose, each assessment in the Nevada Proficiency Examination Program must be considered in conjunction with all other forms of assessment. This concept is consistent with the adage that the whole is greater than the sum of its parts. Each form of assessment provides useful bits of information, but the interpretation of student and school achievement is better informed by looking at the influence of multiple measures. (See Figures 1 and 2.)

Figure 1 — A Complementary System Of State, Local, And Building Level Assessment Practices

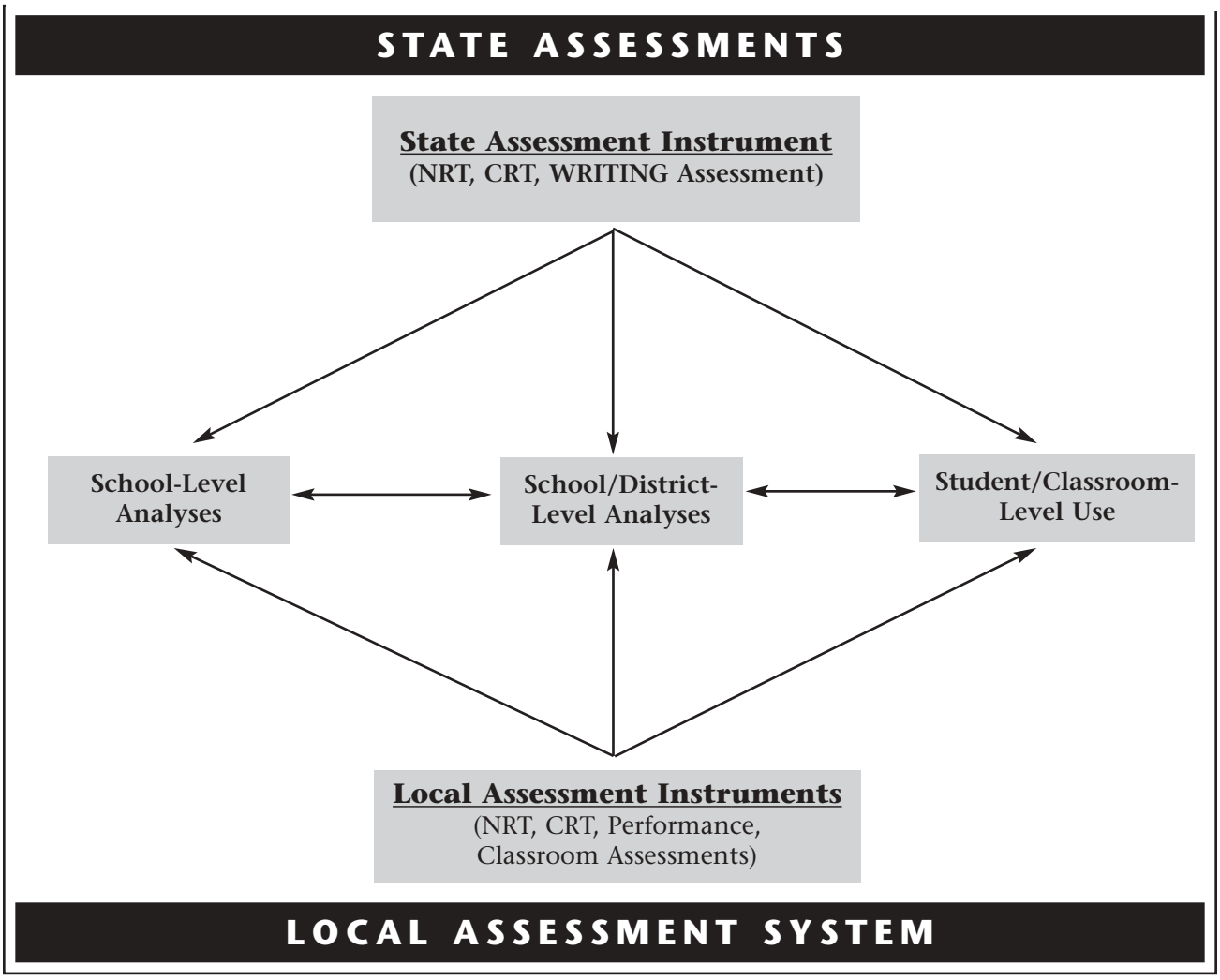
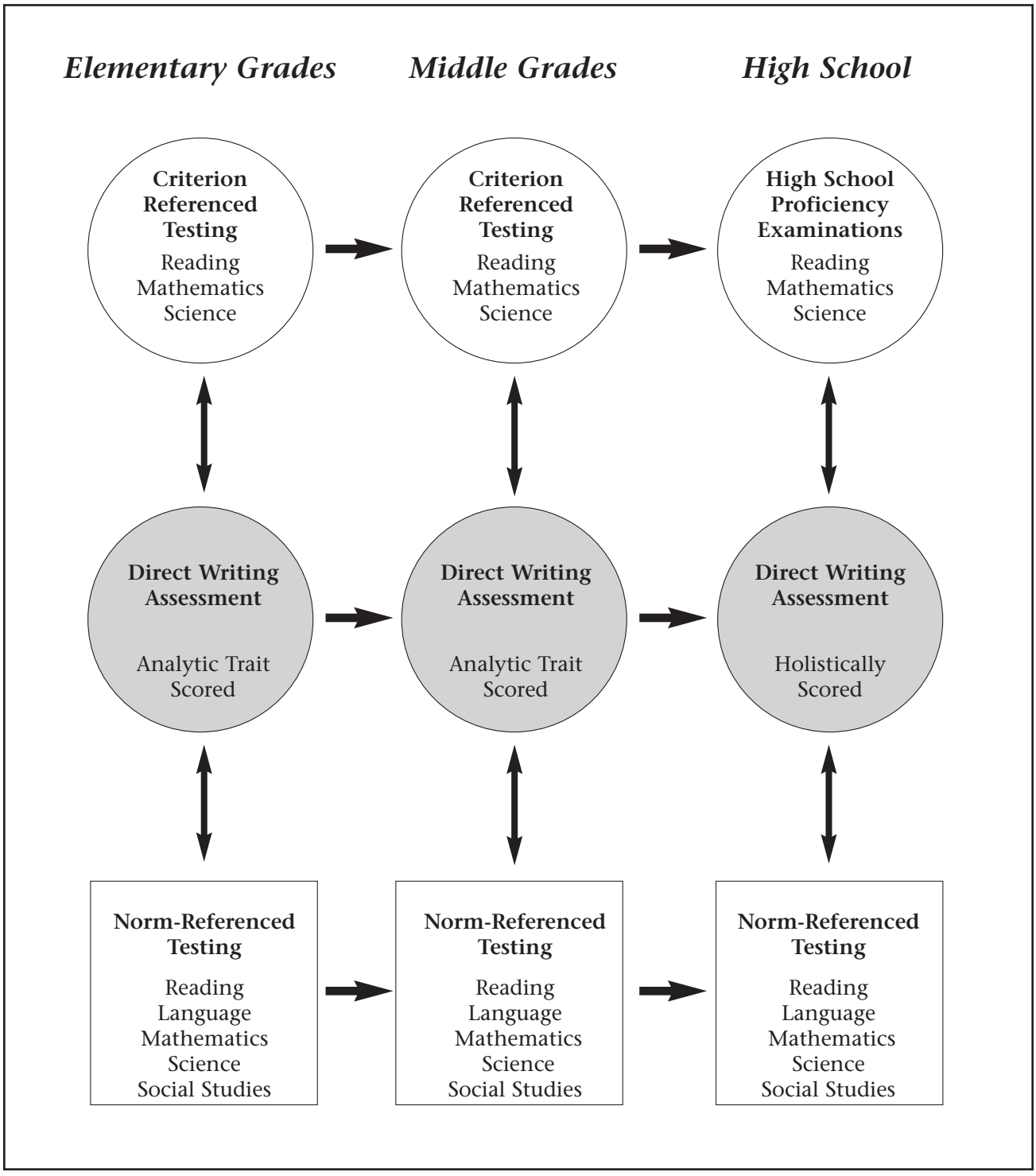


Figure 2 — State-Level Assessment Flow



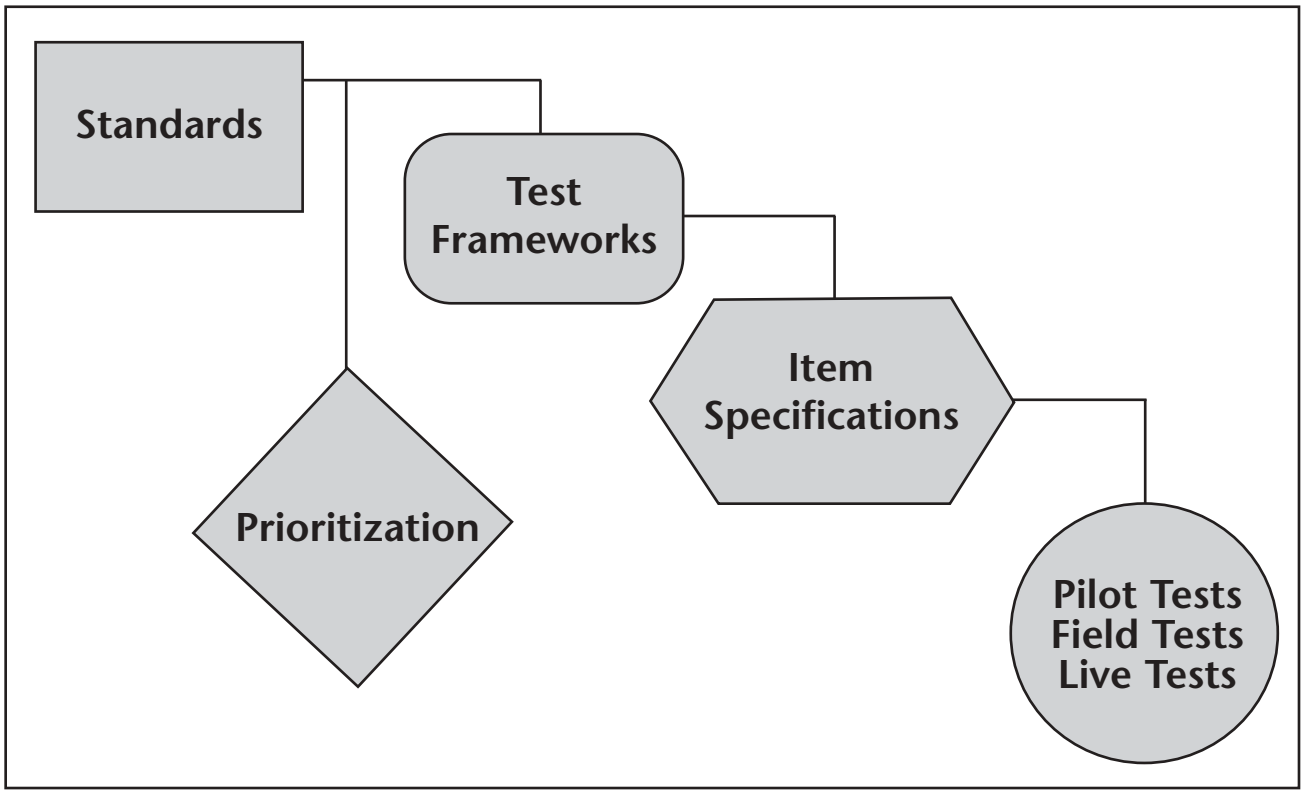
Accountability and Alignment

Current reform initiatives, most recently the federal *No Child Left Behind Act*, are built on the notion of "results-based" accountability. Stated simply, students are responsible for learning standards-based content knowledge and skills, and educators are responsible for providing students with the opportunity to learn and demonstrate that knowledge and those skills.

This much is known about accountability systems and the role of assessments: When the stakes are high, whether applied to students or to schools, the assessments drive classroom instruction and/or behavior, and there is motivation to perform well on the accountability measures. Directing instructional change can be desirable and is arguably the goal or role of accountability. How assessments affect instruction or curriculum is a key concern and leads to the issue of alignment between standards and assessments. Unless this alignment is clear, the results of accountability cannot be reliable.

For the assessments and the accountability system to support the overall goals of improving student learning and school improvement, the assessments must measure the standards. Unfortunately, the language of "standards" is not always easily applied to assessment or measurement. Work must be done to translate the standards into a form that is conducive to assessment, yet does not compromise academic expectations. This can be achieved in multiple ways and has been accomplished in Nevada using the following method (See Figure 3.).

Figure 3 — Translation is One Step in the Alignment



The articulation of standards into a form appropriate for school- and classroom-level assessments is needed for a variety of reasons. First of all, it provides a clear plan for developing test items and tasks. This gives some assurance that, at the state level, measurements are aligned with expected proficiency of student performance based on the state standards. In addition, it supports the development of school district or classroom assessments that are aligned to both the state academic expectations and other forms of assessment that comprise the total assessment system. Aligning different types of assessments is required to achieve systemic reform.

The articulation of standards, ultimately in the form of assessment, also helps serve another critical purpose. It communicates what is expected from students in the form of knowledge and skills acquisition as well as what is expected from schools in terms of curriculum and instructional delivery. In addition, students, parents, and teachers must know how students will be assessed and the decisions that will be made based on their performance.

One of the critical features of the interpretation of standards in Nevada has been the prioritization of standards. After the standards were written and adopted, a statewide committee of district-nominated educators were brought together to make decisions regarding the assessment of the standards. Groups of teachers and other educators had the task of taking each standard and objective and noting whether it was indicative of being ***enduring*** (i.e., essential knowledge and skills students need to internalize and retain), ***important*** (i.e., knowledge and skills students need to expand their understanding, make connections, and comprehend new or unfamiliar information), or ***worthwhile*** (i.e., students should be familiar with key concepts, ideas, facts, and terms). Next, educators made decisions as to whether a standard/objective might best be assessed at the state or local level. This process resulted in a clear subset of standards and objectives that were denoted as being enduring or important as well as testable at the state level.

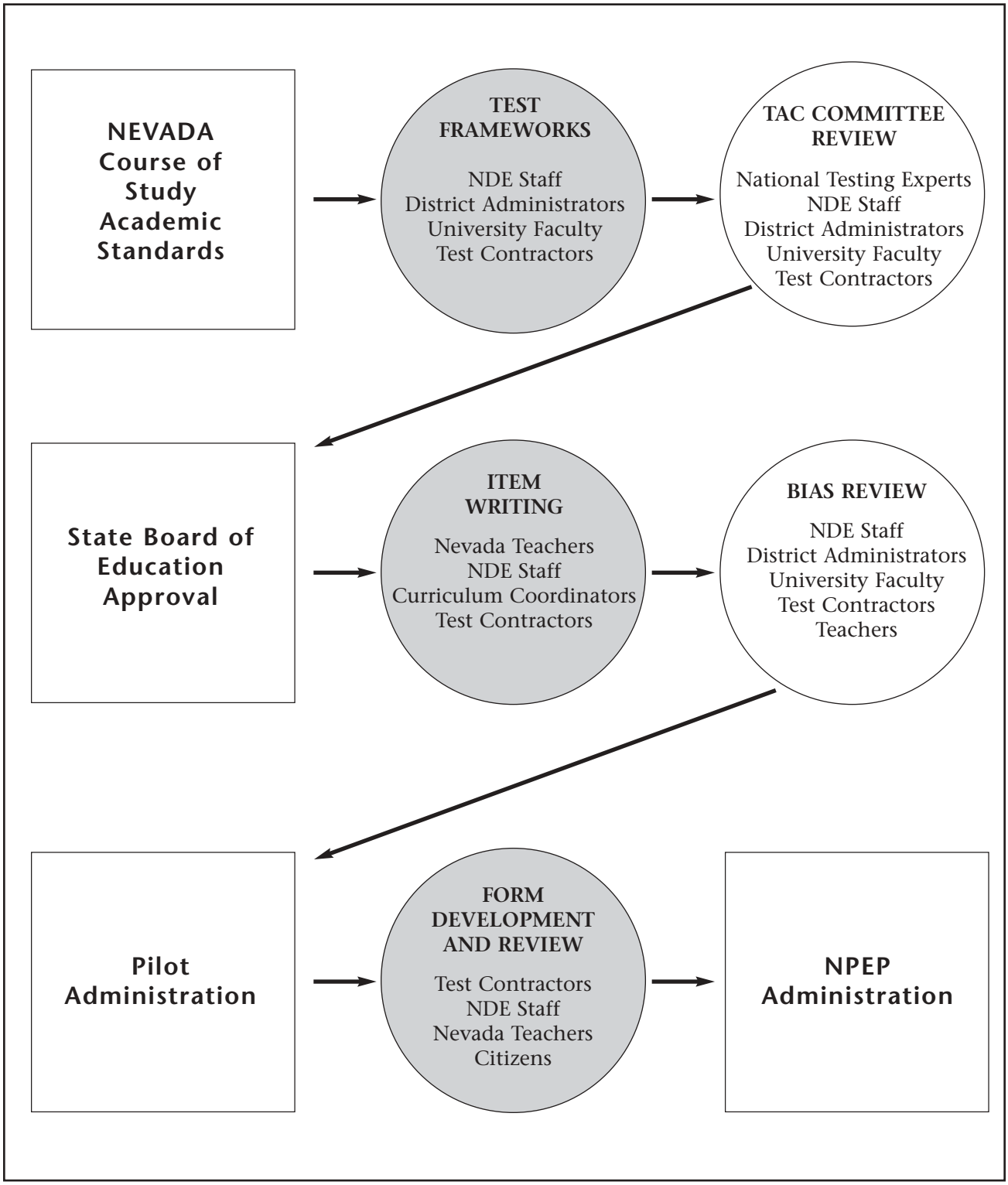
The prioritization process is important for several reasons. First, the breadth and depth of the Nevada Content Standards make it very difficult to provide a comprehensive assessment. Second, although a lengthy assessment process might be seen as optimal, cost and time spent testing are practical constraints. Third, the prioritization process allows for a finer distinction in those aspects of the standards that are essential for state assessment. This, of course, is a critical undertaking. As stated previously, testing will direct curriculum and instruction, and any narrowing of curricular scope could be detrimental to including all the standards in classroom instruction. It is important to note that the prioritization process did not exclude any of the standards/objectives from assessment. Instead, it called for the assessment of all standards/objectives at the local level, and a specified set of knowledge/skills to be assessed at the state level.

Development

The cornerstone of the test development process of the Nevada Proficiency Examination Program is teacher involvement in the writing and reviewing of test items. This test-building process for state assessments is comprehensive and involves national and local educators, as well as technical assistance from regional education laboratories and testing contractors. Prior to writing items, teachers are provided thorough training designed to assist them in writing quality items that are free from bias and clearly aligned to specific prioritized content standards. Throughout item writing sessions, time is dedicated to peer-review of item drafts, which includes validating the matched items to specific content skills.

Figure 4 illustrates the development process for test items. It begins with the state standards and the construction of test frameworks and specifications for them, followed by a review of these documents by a Technical Advisory Committee (TAC) and policy boards. After approval from the Nevada Board of Education, educators who have been nominated by district administrators from around the state begin the item writing process, which includes the construction of items/tasks and the qualitative bias review of test items/tasks and reading passages. Items are analyzed to ensure they do not convey insensitivity to a particular group, violate privacy issues, or differentially impact opportunity and access. A variety of educators and other citizens are involved in the review process with the goal of building a culturally diverse team that is representative of the state population, with teachers always serving in this primary role. Reliance on teacher involvement in the writing and review process provides confidence that the state assessments accurately measure content being taught in Nevada classrooms. Once written and reviewed, items are field tested with Nevada students. Based on a statistical and qualitative review of the field-tested items, test forms are constructed, submitted for a comprehensive review, and ultimately formally administered to students.

Figure 4 — The NPEP Development Process



Reporting

In order for assessments to serve the purposes of improving student learning and classroom instruction, assessment results must be reported in a manner that facilitates the interpretation of student performance. The reporting of results must be tied directly to the expectations for student learning.

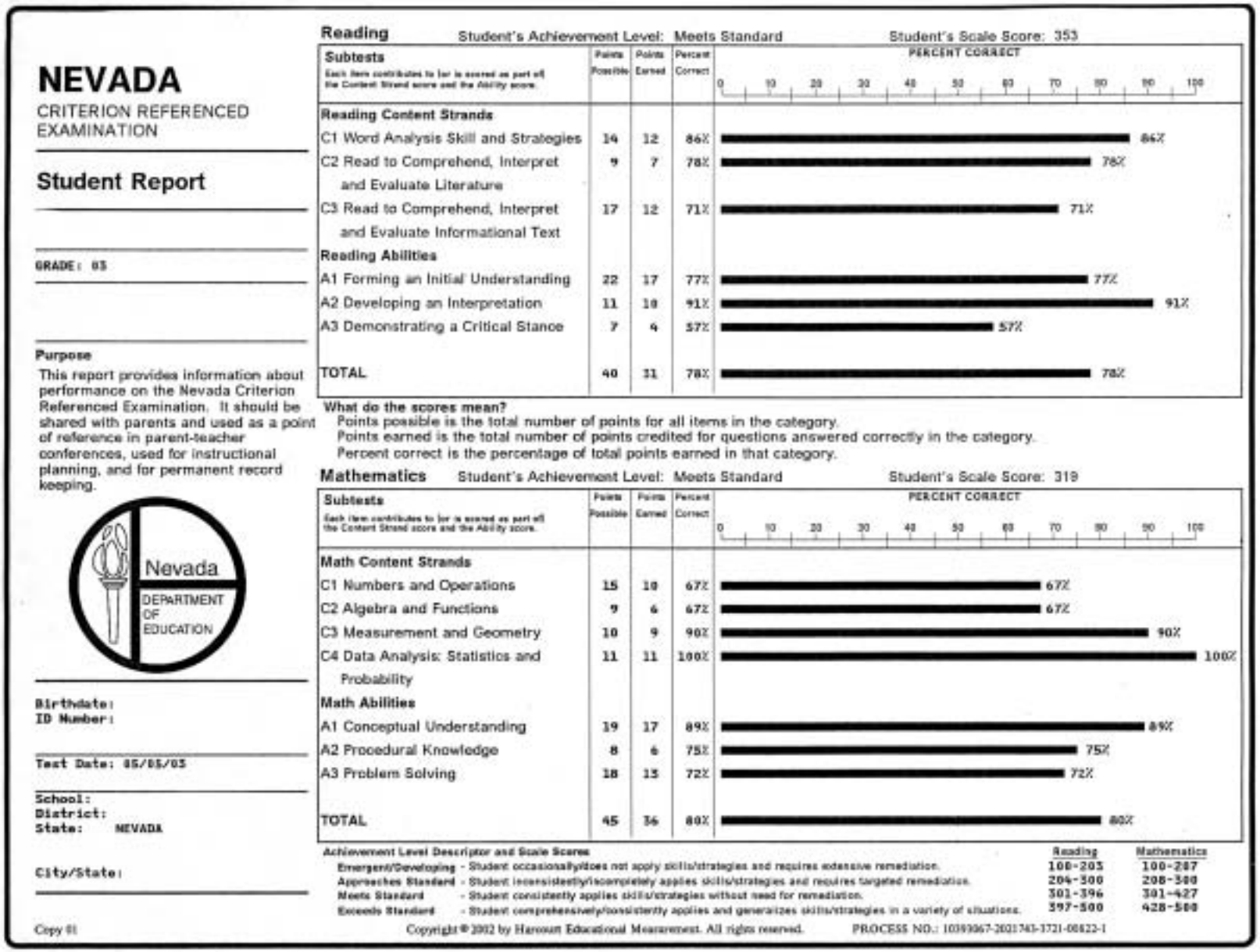
The state provides a variety of score reports in paper format including student, school, district, and state level summary reports. Additionally, "raw" data is provided to school districts in electronic format to allow for more precise analyses. The integration of results from the multiple levels of assessment (i.e., state vs. classroom) requires the use of electronic media. The state is currently pursuing the adoption of web-based reporting software that can make the "raw" data available in varying degrees of specificity to all education stakeholders. In particular, teachers would be able to access data representing their own classroom, school, and/or district.

Although the electronic transfer of results is optimal, the paper reports disseminated by the state must still convey important information with clarity. The student level summary report conveys both diagnostic and general achievement information (see Figures 5a and 5b). It provides information pertaining to the number of items possible, the number of items correct, and the percentage of items answered correctly relative to a particular content standard (i.e., in Reading, *Read to Comprehend*, *Interpret and Evaluate Literature*, or in Math, *Algebra and Functions*). In addition, it provides information on the cognitive domain (i.e., in Reading, *Developing an Interpretation* or in Math, *Procedural Knowledge*).

The scale score obtained by the student is specified at the top of the score sheet and a key is provided at the bottom qualifying the achievement levels by descriptors of the scale scores, i.e., emerging/developing, approaching standard, meeting standard, or exceeding standard. The scale score is derived by mapping each raw score to a scale score through a linear transformation process where student ability, test difficulty, and student guessing are factored into the equation. The cut scores of 200 for *Approaches Standard* and 300 for *Meets Standard* were established during the Nevada Standard Setting process in 2002. The *Exceeds Standard* cut is also fixed, but may vary minimally for each test. While the raw score percentage correct required to attain each achievement category may change from year to year and may differ from subject to subject, the scale score cuts remain constant. As a result, for some test forms or subjects, students could receive relatively high percentages of correct answers and not meet the standard, while with other forms they could receive relatively moderate scores and could meet or even exceed the standard, depending on the difficulty of the test form and the achievement level cuts established in the standard setting process.

The number/percentage correct information provided on the Student-Level Summary Score Report has limited diagnostic value. For a particular administration, it does indicate performance relative to the more specified content areas; but the limited number of questions related to any particular standard or domain, in addition to the number of skills encompassed within the standard, prevents a highly reliable estimate of performance. However, if this information is combined with classroom-based information, a strong diagnostic picture can be created. For example, if a student correctly answers 5 of 10 items pertaining to *Numbers and Number Sense* on the state test, it would suggest some relative weakness. However, because each test form is but a sampling of content from the standards, it is important to validate the state level performance information with classroom level information relative to *Numbers and Number Sense* (assignment grades, class quizzes, teacher observation, etc.) before major remedial efforts would be implemented for any student.

Figure 5a — Student-Level Summary Score Report Grade 3 (Front)



NEVADA

CRITERION REFERENCED EXAMINATION

Student Report

GRADE: 03

Purpose

This report provides information about performance on the Nevada Criterion Referenced Examination. It should be shared with parents and used as a point of reference in parent-teacher conferences, used for instructional planning, and for permanent record keeping.

Nevada DEPARTMENT OF EDUCATION

Birthdate:
ID Number:

Test Date: 05/05/03

School:
District:
State: NEVADA

City/State:

Copy 01

Reading Student's Achievement Level: Meets Standard Student's Scale Score: 353

Subtests (Each item contributes to (or is scored as part of) the Content Strand score and the Ability score.)	Points Possible	Points Earned	Percent Correct	PERCENT CORRECT (0 10 20 30 40 50 60 70 80 90 100)
Reading Content Strands				
C1 Word Analysis Skill and Strategies	14	12	86%	86%
C2 Read to Comprehend, Interpret and Evaluate Literature	9	7	78%	78%
C3 Read to Comprehend, Interpret and Evaluate Informational Text	17	12	71%	71%
Reading Abilities				
A1 Forming an Initial Understanding	22	17	77%	77%
A2 Developing an Interpretation	11	10	91%	91%
A3 Demonstrating a Critical Stance	7	4	57%	57%
TOTAL	40	31	78%	78%

What do the scores mean?

Points possible is the total number of points for all items in the category.
Points earned is the total number of points credited for questions answered correctly in the category.
Percent correct is the percentage of total points earned in that category.

Mathematics Student's Achievement Level: Meets Standard Student's Scale Score: 319

Subtests (Each item contributes to (or is scored as part of) the Content Strand score and the Ability score.)	Points Possible	Points Earned	Percent Correct	PERCENT CORRECT (0 10 20 30 40 50 60 70 80 90 100)
Math Content Strands				
C1 Numbers and Operations	15	10	67%	67%
C2 Algebra and Functions	9	6	67%	67%
C3 Measurement and Geometry	10	9	90%	90%
C4 Data Analysis: Statistics and Probability	11	11	100%	100%
Math Abilities				
A1 Conceptual Understanding	19	17	89%	89%
A2 Procedural Knowledge	8	6	75%	75%
A3 Problem Solving	18	13	72%	72%
TOTAL	45	36	80%	80%

Achievement Level Descriptor and Scale Scores		Reading	Mathematics
Emergent/Developing	- Student occasionally/does not apply skills/strategies and requires extensive remediation.	100-203	100-287
Approaches Standard	- Student inconsistently/incompletely applies skills/strategies and requires targeted remediation.	204-300	288-300
Meets Standard	- Student consistently applies skills/strategies without need for remediation.	301-396	301-427
Exceeds Standard	- Student comprehensively/consistently applies and generalizes skills/strategies in a variety of situations.	397-500	428-500

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Figure 5b — Student-Level Summary Score Report Grade 3 (Back)

READING

Additional information about the Nevada content areas can be viewed at the Nevada Department of Education website, www.nde.state.nv.us. The Nevada Criterion-Referenced Examination in Reading contains passage selections with a variety of questions ranging in difficulty which test how well a student can perform reading activities based on:

READING CONTENT STRANDS

Word Analysis Skill and Strategies (C1)

- Use knowledge of phonics and structural elements to read and determine the meaning of unfamiliar words in context.
- Use knowledge of prefixes, suffixes, roots, or base words to determine the meaning of words in context.
- Identify and use knowledge of diphthongs when reading; determine the meanings and other features of unknown words using dictionaries and glossaries.
- Identify and use knowledge of synonyms, homophones, and homographs to expand vocabulary and understand text.

Read to Comprehend, Interpret and Evaluate Literature (C2)

- Restate facts and details in text to share information and organize ideas.
- Make inferences about setting and character traits; make predictions about plot; check text for verification.
- Identify and compare themes or messages in reading selections.

Read to Comprehend, Interpret and Evaluate Informational Text (C3)

- Restate facts and details in text to share information and organize ideas.
- Distinguish essential information from titles, tables of contents, chapter headings, glossaries, indexes, diagrams, charts, and maps to locate information in texts for specific purposes.
- Distinguish between cause and effect, fact and opinion, and main ideas and supporting details in texts.
- Draw conclusions about text and support them with textual evidence and experience.

READING ABILITIES

Forming an Initial Understanding (A1)

- Assesses the initial understanding of what is read ("reading the lines").

Developing an Interpretation (A2)

- Assesses a more complete understanding of what is read ("reading between the lines").

Demonstrating a Critical Stance (A3)

- Assesses the evaluation and consideration of what is read ("reading beyond the lines").

MATHEMATICS

Additional information about the Nevada content areas can be viewed at the Nevada Department of Education website, www.nde.state.nv.us. The Nevada Criterion-Referenced Examination in Mathematics will contain items that test how well a student can perform the following mathematical activities:

MATHEMATICS CONTENT STRANDS

Numbers and Operations (C1)

- Immediately recall and use addition, subtraction, and multiplication facts to 81.
- Add and subtract multi-digit numbers with regrouping.
- Generate and solve 2-step addition and subtraction and 1-step multiplication problems based on practical situations using pencil and paper, mental computation, and estimation.
- Add and subtract decimals using money as a model.
- Use, model, and identify place value positions up to 10,000.
- Model, sketch, and label fractions with denominators to 10; write fractions with numbers and words.

Algebra and Functions (C2)

- Recognize, describe, and create patterns using numbers; use number patterns and their extensions to solve problems.
- Identify missing terms and missing numbers in open number sentences involving number facts in addition and subtraction.
- Complete number sentences with the appropriate words and symbols for addition, subtraction, less than, greater than, and equal to (+, -, <, >, =).

Measurement and Geometry (C3)

- Select and use appropriate units of measurement; measure to a required degree of accuracy, and record results.
- Read, write, and use money notation determining possible combinations of coins and bills to equal given amounts.
- Tell time to the nearest minute, using analog and digital clocks, and identify elapsed time.
- Describe, sketch, compare, and contrast plane geometric figures.

Data Analysis: Statistics and Probability (C4)

- Collect, organize, display, and describe simple data using number lines, pictographs, bar graphs, and frequency tables.
- Use concepts of probability (e.g., impossible, likely, certain) to make predictions about future events.

MATHEMATICS ABILITIES

Conceptual Understanding (A1)

- Label, define, and compare/contrast concepts and translate from one mode of representation to another.
- Recognize and identify properties of a given concept, and use models, diagrams, and symbols to represent it.

Procedural Knowledge (A2)

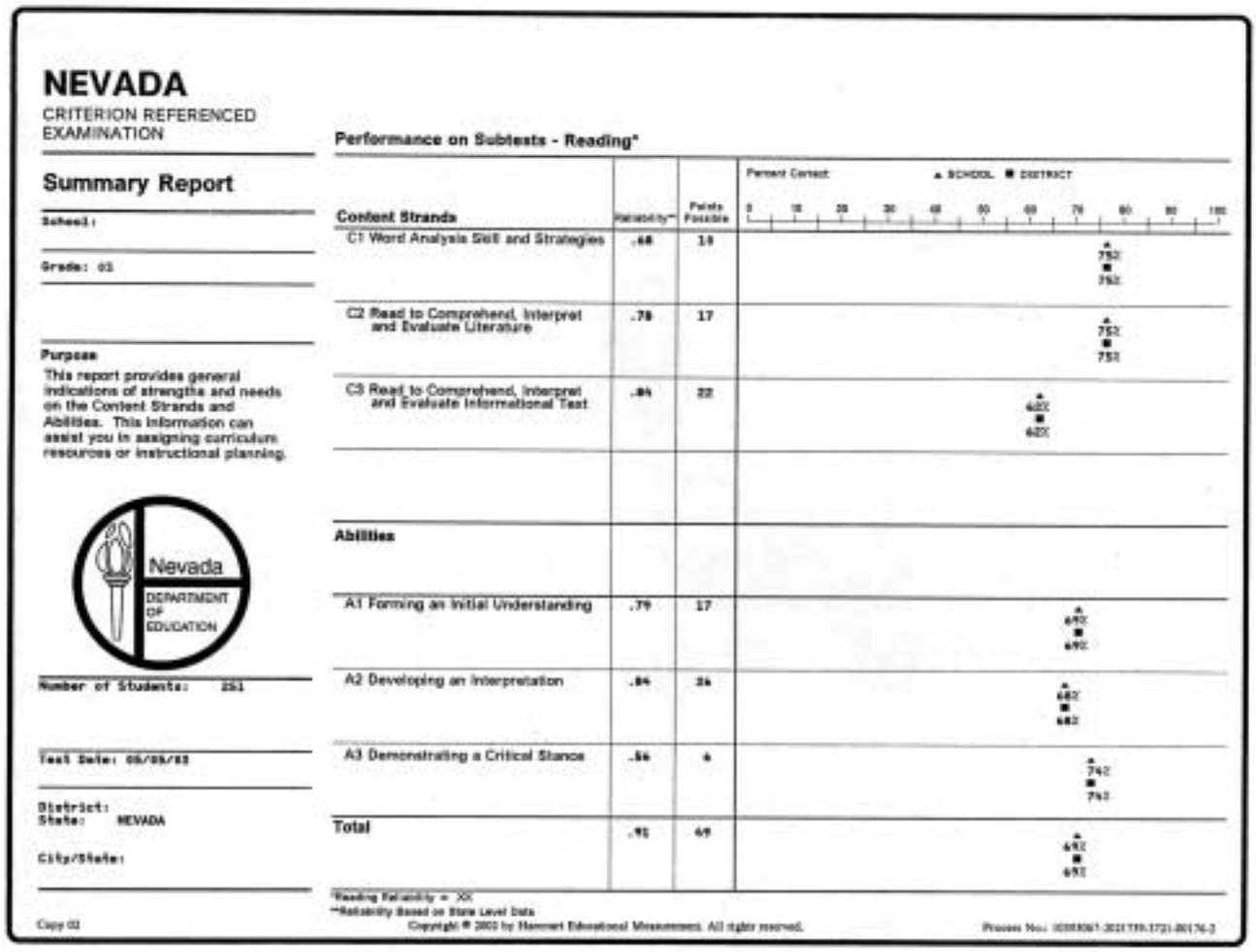
- Recognize when a procedure is appropriate, give reasons for steps in a procedure, and accurately execute procedures in a problem situation.
- Verify the results of procedures using analysis and/or models.
- Identify and/or demonstrate the appropriate use of tools (calculators, protractors, rulers, etc.).

Problem Solving (A3)

- Analyze situations to determine common properties and structures, recognize patterns, and form conjectures.
- Apply a variety of combinations of strategies to solve problems.
- Verify conclusions, judge the validity of conjectures, and construct valid arguments.

The school summary report (see Figures 6a and 6b) communicates similar information. The report conveys raw performance in terms of the school's average percent correct relative to each content standard and cognitive domain. Next to the "Number of Items" is the "Reliability Indicator" that refers to the extent to which test scores on items are consistent based on statistical analyses. The report also provides a standard-by-standard, domain-by-domain comparison between the school and the school district as well as a bar chart denoting a comparison between the school and the district in terms of pass rates. Disaggregated data on student performance by major subpopulations is also provided. This includes average scale score performances as well as pass rates by gender, major ethnic groups, students with disabilities, students with limited English proficiency, and students with low socio-economic status.

Figure 6a — School-Level Summary Score Report – Reading Grade 3



NEVADA

CRITERION REFERENCED EXAMINATION

Summary Report

School:

Grade: 03

Purpose

This report provides general indications of strengths and needs on the Content Strands and Abilities. This information can assist you in assigning curriculum resources or instructional planning.

Nevada Department of Education

Number of Students: 251

Test Date: 05/05/03

District:
State: NEVADA

City/State:

Copy 02

Performance on Subtests - Reading*

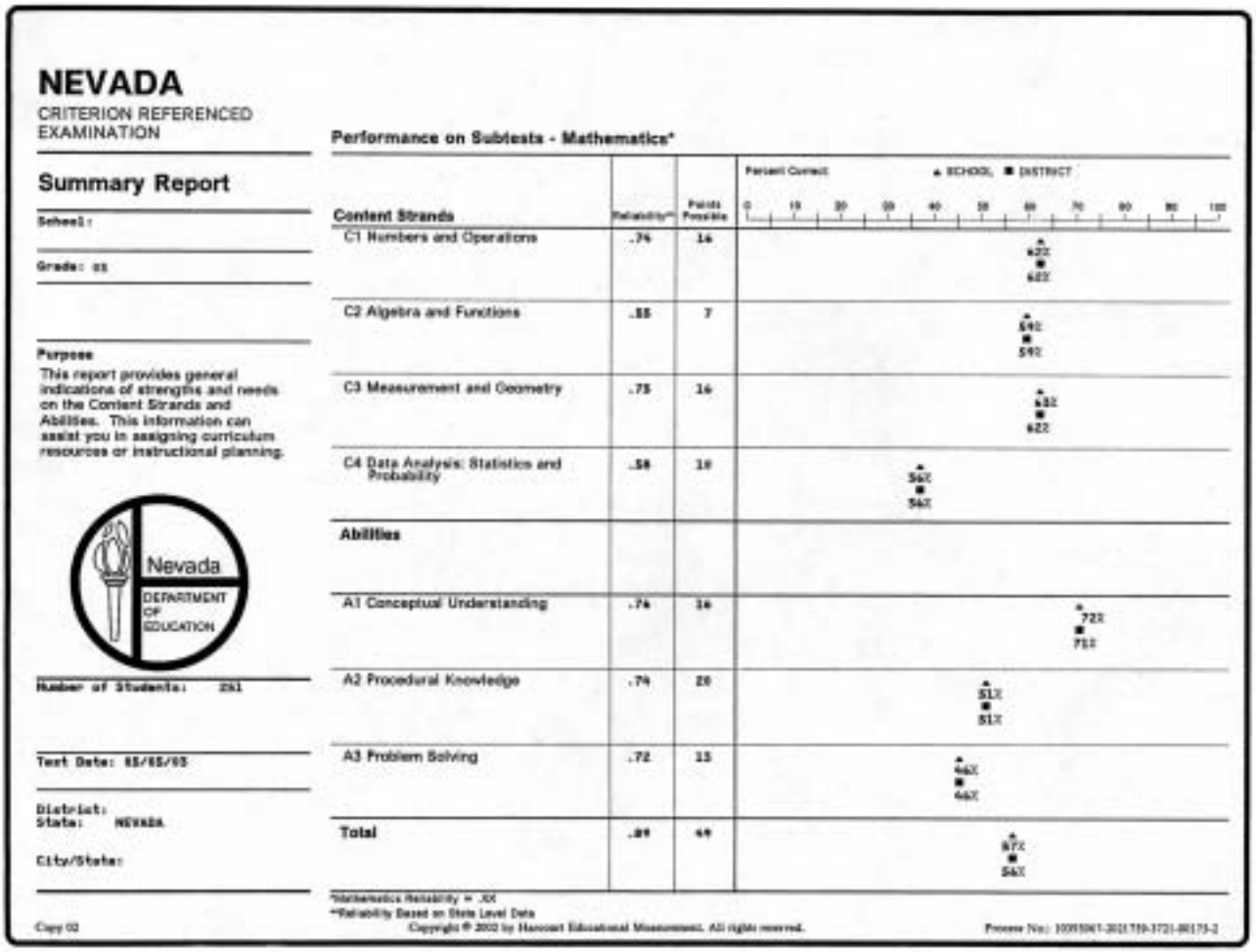
Content Strands	Reliability**	Points Possible	Percent Correct ▲ SCHOOL ■ DISTRICT 0 10 20 30 40 50 60 70 80 100
C1 Word Analysis Skill and Strategies	.68	19	▲ 75% ■ 75%
C2 Read to Comprehend, Interpret and Evaluate Literature	.78	17	▲ 75% ■ 75%
C3 Read to Comprehend, Interpret and Evaluate Informational Text	.84	22	▲ 62% ■ 62%
Abilities			
A1 Forming an Initial Understanding	.79	17	▲ 69% ■ 69%
A2 Developing an Interpretation	.84	34	▲ 68% ■ 68%
A3 Demonstrating a Critical Stance	.86	6	▲ 74% ■ 74%
Total	.91	69	▲ 69% ■ 69%

*Reading Reliability = XX

**Reliability Based on State Level Data

Process No.: 0000067-2031719-1721-00176-2

Figure 6b — School-Level Summary Score Report – Mathematics Grade 3



NEVADA
CRITERION REFERENCED EXAMINATION

Summary Report

School:

Grade: 03

Purpose
This report provides general indications of strengths and needs on the Content Strands and Abilities. This information can assist you in assigning curriculum resources or instructional planning.

Nevada Department of Education

Number of Students: 251

Test Date: 05/05/05

District:
State: NEVADA

City/State:

Copy 02

Performance on Subtests - Mathematics*

Content Strands	Reliability**	Points Possible	Percent Correct ▲ SCHOOL ■ DISTRICT 0 10 20 30 40 50 60 70 80 90 100
C1 Numbers and Operations	.74	14	▲ 62% ■ 62%
C2 Algebra and Functions	.55	7	▲ 59% ■ 59%
C3 Measurement and Geometry	.75	16	▲ 63% ■ 62%
C4 Data Analysis: Statistics and Probability	.58	10	▲ 56% ■ 54%
Abilities			
A1 Conceptual Understanding	.74	34	▲ 72% ■ 71%
A2 Procedural Knowledge	.74	20	▲ 51% ■ 51%
A3 Problem Solving	.72	13	▲ 44% ■ 44%
Total	.89	69	▲ 57% ■ 54%

*Mathematics Reliability = .XX
**Reliability Based on State Level Data

Process No.: 1009361-2021759-3721-00173-2


Vocabulary
Details
First Impression
Character
Plot

READING INTRODUCTION

All students must have the opportunities and resources to develop the language skills they need to pursue life's goals and to participate fully as informed, productive members of society.

— National English/Language Arts Standards
http://www.ncte.org/about/over/standards/110846.htm

The goals of English/Language Arts education in Nevada emphasize the importance of students becoming proficient readers and writers. As students learn literacy skills, they must understand and practice effective reading strategies for a variety of purposes in a range of genres. Students must read often, interpreting and evaluating a broad range of classic and contemporary literature. They should also be active, critical consumers of media and technology information. Students should know how to evaluate and summarize information and communicate their conclusions clearly to others. They must be able to develop, organize, and conventionally present their ideas logically and effectively in written and oral formats.

The Nevada English Language Arts Standards provide a comprehensive conceptual framework within which explicit content is identified in a K-12 sequence of study. The criterion-referenced test in reading is designed to align the assessment system with instruction.

Nevada's Content and Performance Standards in English Language Arts are composed of 11 standards, four of which are tested in the reading portion of the criterion-referenced tests at grade 3. Content Standards 1 through 4 deal with students' abilities to use word analysis, reading process, and comprehension skills. Each standard has performance indicators that target specific competencies within the standard. The following is a description of the standards and those performance indicators tested. Those tested at the state level are check marked.

Nevada English Language Arts Standards and Progress Indicators

Standard 1: Students know and use word analysis skills and strategies to comprehend new words encountered in text.

Grade 3 Progress Indicators

By the end of Grade 3, students know and are able to do everything required in the previous grades and:

- Read texts aloud with fluency, accuracy, and appropriate intonation and expression; read high-frequency words to build fluency.

✔ Use knowledge of phonics and structural elements to read and to determine the meaning of unfamiliar words in context.

✔ Use knowledge of prefixes, suffixes, roots, or base words to determine the meaning of words in context.

✔ Identify and use knowledge of diphthongs when reading; determine the meanings and other features of unknown words using dictionaries and glossaries.

✔ Identify and use knowledge of synonyms, antonyms, homophones, and homographs to expand vocabulary and understand text.

Standard 2: Students use reading process skills and strategies to build comprehension.

Grade 3 Progress Indicators

- Identify pre-reading strategies, such as accessing prior knowledge, predicting, previewing, and setting a purpose to improve comprehension.
- Use self-correcting strategies, such as self-questioning and rereading to gain meaning from text.
- Recall essential points in text while reading; make and revise predictions about upcoming information.

✔ Restate facts and details in text to share information and organize ideas.

- Adjust reading rate to suit difficulty of text.

Standard 3: Students read to comprehend, interpret, and evaluate literature from a variety of authors, cultures, and times.

Grade 3 Progress Indicators

- Compare plots, settings, and characters in a variety of works and by a variety of authors.

✔ Make inferences about setting and characters' traits; make predictions about plot; check text for verification.

- Compare plots, settings, characters, and perspectives in a variety of works by a variety of authors from different cultures and times.

✔ Identify and compare themes or messages in reading selections.

- Identify simile, metaphor, onomatopoeia, and hyperbole in text.
- Read and identify stories, plays, poetry, and nonfiction selections.

Standard 4: Students read to comprehend, interpret, and evaluate informational texts for specific purposes.

Grade 3 Progress Indicators

✔ Distinguish essential information from titles, tables of contents, chapter headings, glossaries, indexes, diagrams, charts, and maps to locate information in texts for specific purposes.

✔ Distinguish between cause and effect, fact and opinion, and main idea and supporting details in text.

- Ask questions and support answers by connecting prior knowledge with literal and inferential information in text.

✔ Draw conclusions about text and support them with textual evidence and experience.

- Read and follow three- and four-step directions to complete a simple task.

THE NEVADA CRITERION REFERENCED TESTS

The Nevada Criterion Referenced Tests (CRT) in reading are passage-based, that is, all items (questions) are connected to an extended piece of written text. Because reading passages form the basis for assessing reading comprehension, there are certain considerations that guide the selection of the texts, including genre, passage length, and readability.

In assessing reading, it is important to provide opportunities for students to respond to different types of reading materials for different purposes. Reading passages found in the CRT reading examination may be literary, informational, or functional text. Passage length will range from 300 to 500 words for grade 3. Poems may be shorter than the minimum number of words designated, and pairing of two short passages may occur. The pairing of passages provides opportunities to assess analysis skills and also provides enough text from which to construct the desired number of items per passage.

Besides being familiar with a range of reading genres, the readability levels of the passages must be consistent with grade-level appropriateness as well as with the reading purpose. Readability levels are determined through many variables: format, typography, content, literacy form and style, vocabulary difficulty, sentence complexity, concept load or density, cohesiveness, etc. Readability formulas are run on each passage; however, teacher expertise is the final determinate of grade-level appropriateness.

Since previously published text is used for the passages on the test, some texts may not follow grammar or usage rules students are taught to use in their own writing. The passage must be printed exactly as it was published unless the copyright holder gives permission for changes to be made.

The following is a description of each type of passage found in the reading portion of the criterion-referenced tests.

Literary Text – is writing that is read for enjoyment, entertainment or inspiration. The text may include short stories, literary essays, poems, historical fiction, fables, folk tales, plays, or excerpts from novels. If excerpts are selected, they must have a discernable beginning, middle, and end. The passages should reflect a variety of themes appropriate for and interesting to students at the designated grade level.

Informational Text – is writing that is read for a purpose and is similar to what students see in textbooks every day. It is read in order to solve problems, raise questions, provide information, or present new ideas. Informational passages may be drawn from magazines, newspaper articles, diaries, editorials, essays, biographies, and autobiographies. These selections should have readily identifiable key concepts and relevant supporting details. Informational passages should include a variety of grade-appropriate information sources, both primary and secondary.

Functional Text – is writing that is encountered in everyday life both inside and outside of the classroom. It includes consumer materials, how-to instructions, advertisements, and tables and graphic presentations of text.

The items that are used to evaluate understanding of these passages fall into three Ability Levels (Cognitive Domains) that are reported on the reading assessments.

The following charts show the Content Clusters and Ability Levels (Cognitive Domains).

Content Clusters

C1 – Word Analysis and Skills (Standard 1)
C2 – Comprehend, Interpret, and Evaluate Literature (Standard 3)*
C3 – Comprehend, Interpret, and Evaluate Informational Texts (Standard 4)*

* While not reported separately, some items in C2 and C3 assess students' ability to use reading process strategies in the Standard 2 performance indicators.

Ability Levels (Cognitive Domains)

A1 – Form an Initial Understanding
A2 – Develop an Interpretation
A3 – Demonstrate a Critical Stance

Forming an Initial Understanding (A1)

Questions at this level assess the student's knowledge of the initial understanding of what is read. For A1 questions, the answers can be found directly in the test or as a simple statement of information found in the text. Some examples are:

- Which word has the same vowel sound as…?
- What event happened for the first time in…?
- Choose the correct list of materials needed to play…
- Which sentence is a fact?

Developing an Interpretation (A2)

Questions at this level assess the ability to extend initial understanding to develop a more complete understanding of what is read. This process may involve linking information across parts of a text as well as focusing on specific information. Questions that assess this aspect of reading include drawing inferences about the relationship of two pieces of information and providing evidence to determine the reason for an action. Some examples are:

- How did…feel about the story?
- What is an opinion?
- The directions say to…, so
- What is a simile?

Determining a Critical Stance (A3)

Questions at this level require students to stand apart from the text, consider the entire text objectively, and evaluate its quality and appropriateness. Examining text content and structure requires critically evaluating, comparing/contrasting, and understanding the effect of such features as irony, humor, and organization. Some examples are:

- Another good title for this story is…
- The author of this passage would probably agree with
- What is the main idea of this passage?
- Which was the main event of this passage?

The matrix below explains the configuration of the reading examination at grade 3.

CRT Grade 3 Reading Examination Item Matrix

Content Cluster/ Ability Level (Cognitive Domain)	C1 Word Analysis and Skills (Standard 1)	C2 Comprehend Literature (Standards 2 & 3)*	C3 Comprehend Informational Text (Standards 2&4)*	Total Items	Percent
A1 Initial Understanding	8	3	5	16	40
A2 Interpretation	5	4	7	16	40
A3 Critical Stance	0	4	4	8	20
Total Items	13	11	16	40	
Percent	32	28	40		100

* Standard 2 (Reading process strategies) is assessed in Reporting Cluster 2 with Standard 3 (Comprehend…literature) and in Reporting Cluster C3 with Standard 4 (Comprehend…informational text), but no separate score is given for Standard 2.


Vocabulary
Details
First Impression
Character
Plot

Reporting Category: C1 – Use Word Analysis Skills and Strategies

Ability Level: A1 – Forming an Initial Understanding

Performance Indicator: Use knowledge of prefixes, suffixes, roots, or base words to determine the meaning of words in context.

Passage: *I Love My Dentist* (See page 28 in this guide to read the passage.)

Test Item:

What does the underlined word mean?

A gummy <u>toothless</u> society.

A without teeth

B crooked teeth

C white teeth

D many teeth

Correct Response A: Students know what a "tooth" is. They must add the suffix meaning to determine what <u>toothless</u> means. The suffix *–less* means "without;" thus the word "toothless" means without teeth.

Response B: This response is incorrect. Some students may select this response because they do not know the meaning of the suffix *–less*. From the context of the sentence in the poem, they may believe that without regular visits to the dentist people would get crooked teeth.

Response C: This response is incorrect. Some students may choose this response because they do not know the meaning of the suffix *–less*. They may connect the topic of going to a dentist with having white teeth.

Response D: This response is incorrect. Some students may choose this response because they do not know the meaning of the suffix *–less*. They may think people who regularly visit the dentist will be able to keep many teeth.

Reporting Category: C1 – Use Word Analysis Skills and Strategies

Ability Level: A2 – Developing an Interpretation

Performance Indicator: Use knowledge of phonics and structural elements to read and determine the meaning of unfamiliar words in context.

Passage: *Puppy Love Pet Tags* (See page 35 in this guide to read the passage.)

Test Item:

In this passage, the word veterinarian means a

A pet's owner.

B pet's home.

C pet's doctor.

D pet store.

Correct Response C: The advertisement states that a person might want to put the name of the pet's veterinarian on the back of the tag "if the pet takes medicine." Students who know how to use context clues to determine the meaning of unknown words will recognize this as a clue that a veterinarian is a pet's "doctor."

Response A: This response is incorrect. The advertisement mentions that the owner's name can be placed on the tag. Students who do not know how to use context clues to determine the meaning of unknown words may rely on what they remember from the text. They may erroneously assume that veterinarian means the pet's "owner."

Response B: This response is incorrect. The advertisement mentions that the owner's address can be placed on the pet's tag. Some students may erroneously believe this is a clue that veterinarian means the pet's "home."

Response D: This response is incorrect. The advertisement is about purchasing tags for pets. Some students may erroneously believe this is a clue that veterinarian means a pet "store."

GRADE 3 READING

Reporting Category: C2 – Read to Comprehend, Interpret, and Evaluate Literature

Ability Level: A1 – Forming an Initial Understanding

Performance Indicator: Restate facts and details in text to share information and organize ideas.

Passage: *Fish Fry and Apple Pie* (See page 30 in this guide to read the passage.)

Test Item:

When they first tried to fish, Henry's cousins caught

A a wooden sign.

B a wiggly fish.

C a fat frog.

D a dirty shoe.

Correct Response D: The story states that one of the things the cousins first caught was a muddy sneaker.

Response A: This response is incorrect. Henry and Becky hung a sign on a tree at the beginning of the story, but the cousins did not catch a sign when they first went fishing.

Response B: This response is incorrect. The cousins did not catch fish when they first started to fish.

Response C: This response is incorrect. There is no mention of a frog being caught by anyone.

Reporting Category: C2 – Read to Comprehend, Interpret, and Evaluate Literature

Ability Level: A2 – Developing an Interpretation

Performance Indicator: Make inferences about setting and character traits; make predictions about plot; check text for verification.

Passage: *Fish Fry and Apple Pie* (See page 30 in this guide to read the passage.)

Test Item:

The park and riverbank setting was a good place for the Hopkins family to have their reunion because

A none of the family had been there before.

B none of the cousins had gone fishing before.

C they all enjoyed the outdoor space and activities.

D they could pick the apples for Grandma's pie there.

Correct Response C: In the story, the members of the Hopkins family enjoy outdoor activities. Students should infer that this is a reason why the park and riverbank is a good place for the reunion.

Response A: This response is incorrect. Some students may choose this response because they know this could be a good reason for choosing a place to do something and they may not go back to the text to verify the correctness of the answer in this situation. Henry says he hopes the cousins will let him play games this year. This indicates the family may have held reunions at the park before.

Response B: This response is incorrect. Some students may choose this response because this could be a good reason for choosing a place to do something. The passage states Cousin Billy said "I know a better spot." This suggests he had fished at the park before.

Response D: This response is incorrect. Some students may choose this response because they know this could be a good reason for choosing a place to do something. It would also indicate they did not go back and read to discover that Grandma had brought an already baked pie to the reunion.

GRADE 3 READING

Reporting Category: C2 – Read to Comprehend, Interpret, and Evaluate Literature

Ability Level: A3 – Demonstrating a Critical Stance

Performance Indicator: Make inferences about setting and character traits; make predictions about plot; check text for verification.

Passage: *Fish Fry and Apple Pie* (See page 30 in this guide to read the passage.)

Test Item:

When he saw Henry fishing, Billy said, "I know a better spot," because he

A thought he knew more about the river than others.

B had asked Grandpa where the best spot was.

C wanted to help Henry catch a fish.

D thought he could do everything well.

Correct Response D: Billy was always used to winning. The student can infer that he thought he could do everything well.

Response A: This response is incorrect. The story suggests that Billy did not know much about the river at all.

Response B: This response is incorrect. There is no indication in the story that Billy had consulted anyone about the best spots to fish.

Response C: This response is incorrect. Based on the story, Billy did not want to help Henry in any way.

Reporting Category: C3 – Read to Comprehend, Interpret, and Evaluate Informational Text

Ability Level: A1 – Forming an Initial Understanding

Performance Indicator: State facts and details in text to share information and organize ideas.

Passage: *The Biggest Turtles* (See page 33 in this guide to read the passage.)

Test Item:

Sea turtles can sleep under water because they

A do not need much air when they stay still.

B breathe water when they are sleeping.

C come on land to lay their eggs.

D are the world's biggest turtles.

Correct Response A: The passage states that if sea turtles do not swim around much, they can stay under water for hours. Therefore students should know that this is the reason why they can sleep under water.

Response B: This response is incorrect. Some students may select this response because they assume that sleeping under water would require that the sea turtles be able to breathe water.

Response C: This response is incorrect. Some students may choose this response because the passage states that reptiles come on land to lay their eggs, and the students may mistakenly think that is why the sea turtles sleep under water.

Response D: This response is incorrect. Some students may select this response because they mentally connect the sea turtle's large size with the ability to sleep under water.

Reporting Category: C3 – Read to Comprehend, Interpret, and Evaluate Informational Text

Ability Level: A2 – Developing an Interpretation

Performance Indicator: Draw conclusions about text and support them with textual evidence and experience.

Passage: *Puppy Love Pet Tags* (See page 35 in this guide to read the passage.)

Test Item:

Which idea about "Puppy Love Pet Tags" is suggested by information in the ad?

A They are easily lost.

B They do not weigh very much.

C They are sent with a pet collar.

D They are sold by veterinarians.

Correct Response B: The ad says the tags are so light the pet will not even know it is wearing one, suggesting the tags must not weigh very much.

Response A: This response is incorrect. Some students may select this response because tags frequently do fall off pet collars.

Response C: This response is incorrect. Some students may choose this response because the advertisement mentions the tags are to be put on pet collars.

Response D: This response is incorrect. Some students may select this response because the advertisement says the tag can have the name of the pet's doctor on it.

GRADE 3 READING

Reporting Category: C3 – Read to Comprehend, Interpret, and Evaluate Informational Text

Ability Level: A3 – Demonstrating a Critical Stance

Performance Indicator: Draw conclusions about text and support them with textual evidence and experience.

Passage: *Puppy Love Pet Tags* (See page 35 in this guide to read the passage.)

Test Item:

The "happy ending" Jordan Bollerio wrote about in his letter happened because

A Jordan's family had fun on their vacation.

B Jordan's family got to meet a truck driver.

C Caddy's lost Puppy Love Pet Tag was found at a rest area.

D Caddy was wearing a Puppy Love Pet Tag on his collar.

Correct Response D: The letter thanks the makers of Puppy Love Pet Tags, tells about his dog getting lost, and states that the "story" would not have a happy ending if it weren't for Puppy Love Pet Tags. Students should conclude from this that Caddy was wearing a Puppy Love Pet Tag.

Response A: This response is incorrect. Some students may select this response because the letter mentions that the family was returning from a vacation when Caddy was lost.

Response B: This response is incorrect. Some students may choose this response because the letter says that the family went to meet the truck driver to get Caddy from him.

Response C: This response is incorrect. Some students may select this response because they think it was Caddy's tag that was lost and found rather than Caddy.

1 Read this sentence.

Elan will present his book report to the class.

Which choice below means the same or almost the same as present?

A announce

B explain

C reward

D receive

2 Read this sentence.

Ana _____ a _____ hamburger.

Which pair of homophones (words that sound alike) best completes the sentence?

A ate, plane

B ate, plain

C eight, plain

D eight, plane

3 Read the sentence below.

The giant balloon will not fit in the car.

Which word has the same sound of "g" as the word giant?

A edge

B flag

C gift

D night



I Love My Dentist

by Grandpa Tucker


My friends and I <u>appreciate</u>
Our dentist, Doctor Maik M. Strait.
He stands there with his knowing stare
Each time we crawl into his chair.


He cleans our teeth with special goo.
Why, he even cleans the back sides, too.
Then he gives us special tips
On how to brush inside our lips.

Oh! Cavities! When he finds one,
He grabs the phone! Dials 911!
Crowds line the streets so they can see
A cavity emergency.

If there's one thing I must keep still
It's Dr. Strait's annoying drill.
To keep it quiet there is one way,
Just floss and brush teeth every day!


So we admire our Doctor Strait.
Yes, even when he makes us wait.
Without these dentists we might be,
A gummy toothless society.



4 The poem suggests that Dr. Strait's drill is

A big.

B white.

C noisy.

D wet.

5 At the end of the poem, the poet wrote, "So we admire our Dr. Strait." People probably admire Dr. Strait because

A he makes people wait to see him.

B there is a drill in his office.

C he takes care of people's teeth.

D crowds come when he calls.

6 What is the main idea of this poem?

A Dentists give us tips on brushing.

B Dentists clean teeth with special goo.

C Dentists dial 911 for emergencies.

D Dentists help keep our teeth healthy.

7 Read this line from the poem.

My <u>friends</u> and I appreciate

Which word below has the same vowel sound as the underlined word?

A still

B gives

C time

D yet

8 Read these lines from the poem.

Oh! Cavities! When he finds one,
He grabs the phone! Dials 911!
Crowds line the streets so they can see
A cavity emergency.

These lines let the reader know that the poet is trying to be

A serious.

B funny.

C kind.

D shy.

Fish Fry and Apple Pie

(Passage unavailable — Web publishing rights denied.
Please refer to printed review guide.)

READING SAMPLE TEST PASSAGE

9 From the story, you can tell that Henry is

A younger than Becky.

B bigger than Billy.

C nicer than Becky.

D taller than Aunt Bessie.

10 Henry was sad because he

A did not get a chocolate brownie.

B got lost when he went for a walk.

C wanted to help hang the sign.

D felt less successful than his cousins.

11 Why did Becky stay with Henry at the riverbank?

A She promised to teach him how to fish.

B She did not want him to be lonely.

C She wanted some of his apple pie.

D She knew he was too little to stay by himself.

12 At the reunion, Billy found out that

A he could catch more fish than Henry.

B he couldn't be quiet enough to catch fish.

C he could learn something from Henry.

D he was smarter than everyone else there.

13 When all the cousins were playing games, Henry showed that it is important to

A win every game you play.

B always do your best.

C cry if others aren't nice to you.

D treat others as they treat you.

The Biggest Turtles

by Frank Staub

The world's biggest turtles don't walk on land. They swim in the sea. They are the sea turtles. Like most turtles, sea turtles hardly ever hurry. They usually swim slowly, flapping their great front flippers like birds in flight. But if they have to, sea turtles can swim fast. And they can swim very, very far.

Sea turtles spend most of their time under water. They can stay under water for about five or ten minutes. Then they have to come up for air. But if they don't swim around much, sea turtles can stay under water for hours. Divers sometimes find sea turtles sleeping under rocky ledges and sunken ships.

Image © by Tom Brakefield/CORBIS

Sea turtles are reptiles. Snakes, lizards, and alligators are reptiles too. Reptiles have lungs to breathe air. Many reptiles eat, sleep, or travel in the water. But they still must come on land to lay their eggs.

14 In what way are sea turtles' flippers and birds' wings alike?

A They have feathers on them.

B They help the animals move.

C They help the animals stay under water.

D They are used for flying in the air.

15 The author wrote this passage to

A give information about sea turtles.

B tell a fun story about sea turtles.

C explain how to find sea turtles.

D show that sea turtles are good pets.

16 In this passage, which word or group of words below means about the same as <u>usually</u>?

A hardly ever

B sometimes

C never

D almost always

17 What must many reptiles do on land that they cannot do in the sea?

A sleep

B lay eggs

C travel

D eat

18 Which sentence is an **opinion**?

A Sea turtles are the world's biggest turtles.

B Sea turtles spend time under water.

C Sea turtles are fun to watch.

D Sea turtles are reptiles.

19 How long can sea turtles stay under water if they don't swim around much?

A hours

B days

C weeks

D months

PUPPY LOVE PET TAGS

Pet tags give anyone who finds your lost pet a way to find you.

Square Style

Heart Style

Diamond Style

Circle Style

Available in four popular colors: red, blue, purple and gold.

PUPPY LOVE PET TAGS are great for cats, dogs, and other pets that wear collars. These tags are so light your pet will not even know it is wearing it. Each tag can have five lines of information on the front—your pet's name, your name, your street address, the city and state you live in, and your telephone number. Up to five more lines of information can be put on the back of the tag for 25 cents a line. If your pet takes medicine, you could put the name of your veterinarian on the back. If your pet has more than one collar, you might want to order extra pet tags.

Don't forget — Tell your friends and neighbors about Puppy Love Pet Tags.

Dear Puppy Love,

Thank you for making **Puppy Love Pet Tags**. On our way home from vacation, our collie, Caddy, got lost at a rest area. We searched and searched but couldn't find him anywhere. When we got home, there was a message on our answering machine. A truck driver had found Caddy. We met him the next afternoon and got our dog back. If it weren't for **Puppy Love Pet Tags**, this story would not have had a happy ending.

Sincerely,
Jordan Bollerio

Use this easy form to order your pet tags. Send to: PUPPY LOVE PET TAGS, P.O. Box 121, Reno, NV 89501. If more than one tag is ordered, write the information on plain paper and include it with this form.

Words For Each Line (On the Front)	
1	
2	
3	
4	
5	

Words For Each Line (On the Back)	
1	
2	
3	
4	
5	

Your Name				No. of Tags ordered
Your Street				Tag Cost ($2.50)
Your City, State, and Zip				Additional lines (__ x $.25)
SHAPE	❍ Square	❍ Heart	❍ Diamond	❍ Circle	Shipping ($1.00)
COLOR	❍ Red	❍ Blue	❍ Purple	❍ Gold	Total Amount

20 PUPPY LOVE PET TAGS included Jordan Bollerio's letter in their ad to

A show the reader how thoughtful truck drivers are.

B help the reader see how colorful the tags are.

C make the reader feel happy for Jordan.

D encourage the reader to buy the tags.

21 Which word below means the same or almost the same as <u>shipping</u>?

A making

B printing

C mailing

D answering

22 The ad states that a person might want to order extra pet tags if

A he can't decide which shape he likes best.

B he wants to change his pet's tag daily.

C his pet has to take medicine often.

D his pet has two or more collars.

23 The ad says, "Use this easy form to order your pet tags." This sentence means that the form is easy to

A fill out.

B send for.

C look for.

D cut out.

24 The PUPPY LOVE PET TAGS company asks readers to

A tell others about the tags.

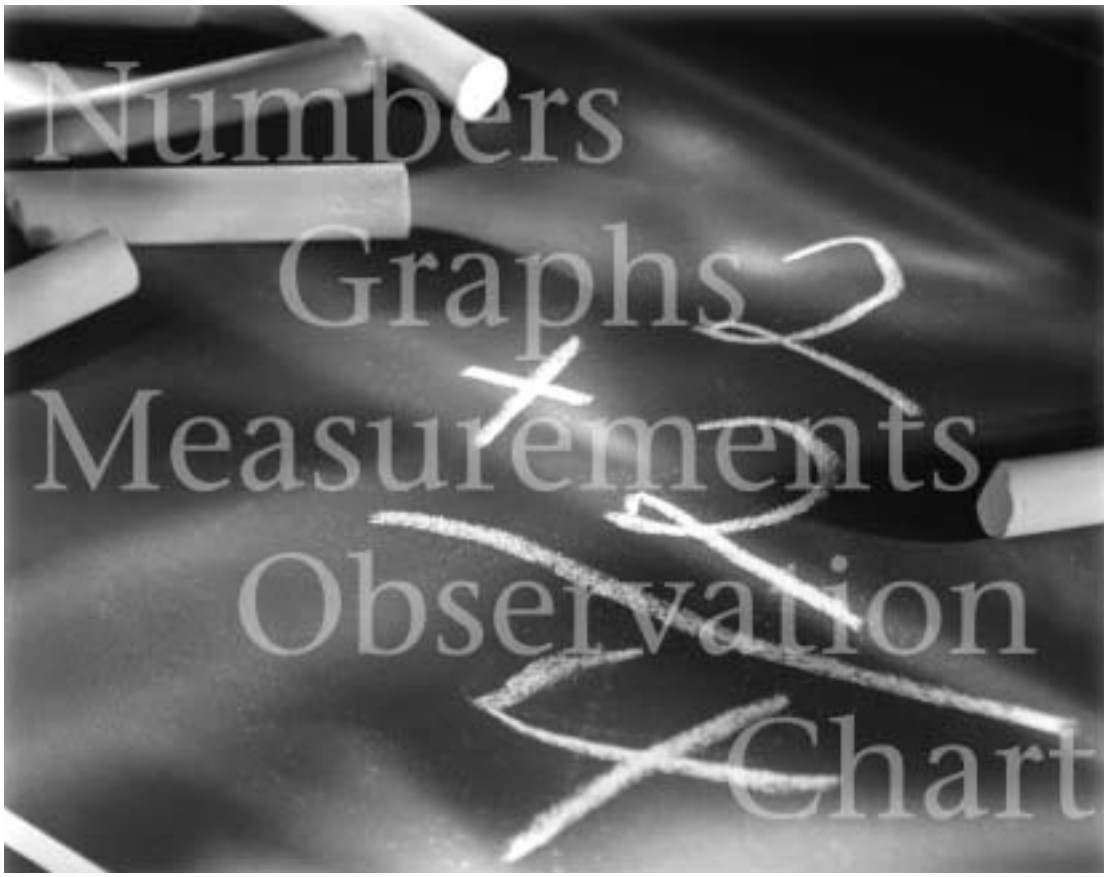
B talk to Jordan Bollerio.

C order pet collars from them.

D take pets on vacation.

READING TEST ANSWER KEY

Item Number	Reporting Category	Ability Level	Answer Key
1	C1	A1	B
2	C1	A1	B
3	C1	A1	A
4	C2	A2	C
5	C2	A2	C
6	C2	A2	D
7	C1	A1	D
8	C2	A3	B
9	C2	A2	A
10	C2	A2	D
11	C2	A1	B
12	C2	A3	C
13	C2	A3	B
14	C3	A1	B
15	C3	A2	A
16	C3	A1	D
17	C3	A1	B
18	C3	A2	C
19	C3	A1	A
20	C3	A2	D
21	C1	A2	C
22	C3	A1	D
23	C3	A2	A
24	C3	A1	A


Numbers
Graphs
Measurements
Observation
Chart

MATHEMATICS INTRODUCTION

Students have different abilities, needs, and interests. Yet everyone needs to be able to use mathematics in his or her personal life, in the workplace, and in further study. All students deserve an opportunity to understand the power and beauty of mathematics. Students need to learn a new set of mathematics basics that enable them to compute fluently and to solve problems creatively and resourcefully.

— National Council of Teachers of Mathematics
http://www.nctm.org/standards/overview.htm

Comprehensive mathematical knowledge is essential for success in today's world. Society needs individuals who have sound estimation skills and number and spatial sense, who are competent using and interpreting data, and who can use appropriate technology resources to solve problems and make informed decisions. These skills are essential if students are to become successful citizens, life-long learners, and competitive workers in a global marketplace.

The goals of mathematics education in Nevada include the following:

- All students will have knowledge of basic mathematical facts and relationships and the ability to perform computations.
- All students will have the ability to make sound estimations and to make sense of number relationships.
- All students will have the ability to read, interpret, and create graphs, tables, and charts.
- All students will have the ability to make geometric observations, measurements, and constructions.
- All students will have the ability to understand the effective, appropriate, and efficient use of models and mathematical tools, including calculators and computer technology.

The Nevada Mathematics Standards provide the framework for a comprehensive K-12 mathematics program and are intended to guide curriculum, instruction, and assessment, as well as other policies and practices that affect student learning. The standards serve as a foundation for teachers and curriculum specialists as they create curriculum and adopt teaching practices relevant to the needs, strengths, and diversity of Nevada's students and communities. The standards also provide clear direction for meaningful pre-service and in-service professional development. In essence, the standards help Nevada's school districts build cohesive and comprehensive systems for ensuring that all students achieve at high levels.

On the following pages are the five content strands (Standards 1.0-5.0) and four process strands (Standards 6.0-9.0) in the Nevada Mathematics Standards. The process strands are carefully integrated within the content standards to emphasize their interconnectedness. This integration is meant to emphasize the importance of teaching mathematics within the context of an application so students will not only know important skills and content but also how to use their knowledge and skills to reason and solve problems. Listed below the five content strands are the performance indicators. A check mark indicates a performance indicator is assessed in the mathematics portion of the criterion referenced tests at grade 3. The performance indicators for the process strands are also assessed; however, they are not reported separately.

Nevada Mathematics Standards and Progress Indicators

Standard 1: *Numbers, Number Sense, and Computation*
Students will develop their ability to solve problems, communicate, reason, and make connections within and beyond the field of mathematics. Students will accurately calculate and use estimation techniques, number relationships, operation rules, and algorithms. They will determine the reasonableness of answers and the accuracy of solutions.

Grade 3 Progress Indicators

By the end of Grade 3, students know and are able to do everything required in the previous grades and:

- ✔ Immediately recall and use addition, subtraction, and multiplication facts to 81.
- ✔ Add and subtract multi-digit numbers with regrouping.
- ✔ Generate and solve 2-step addition and subtraction and 1-step multiplication problems based on practical situations using pencil and paper, mental computation, and estimation.
- ✔ Add and subtract decimals using money as a model.
- • Model and explain multiplication, including as repeated addition.
- • Read, write, order, and compare numbers from 0-999; read and write number words.
- • Round to nearest tens and hundreds to determine reasonableness of the answer; read and write number words.
- ✔ Use, model, and identify place value positions up to 10,000.
- ✔ Model, sketch, and label fractions with denominators to 10; write fractions with numbers and words.

Standard 2: *Patterns, Functions, and Algebra*
Students will develop their ability to solve problems, communicate, reason, and make connections within and beyond the field of mathematics. Students will use various algebraic methods to analyze, illustrate, extend, and create numerous representations (words, numbers, tables, and graphs) of patterns, functions, and algebraic relations as modeled in practical situations.

Grade 3 Progress Indicators

By the end of Grade 3, students know and are able to do everything required in the previous grades and:

- ✔ Recognize, describe, and create patterns using numbers; use number patterns and their extensions to solve problems.
- ✔ Identify missing terms and missing numbers in open number sentences involving number facts in addition and subtraction.
- ✔ Complete number sentences with the appropriate words and symbols for addition, subtraction, less than, greater than, and equal to (+, –, <, >, =).

Standard 3: *Measurement*
Students will develop their ability to solve problems, communicate, reason and make connections within and beyond the field of mathematics. Students will use appropriate tools and techniques of measurement to determine, estimate, record, and verify direct and indirect measurements.

Grade 3 Progress Indicators

By the end of Grade 3, students know and are able to do everything required in the previous grades and:

- ✔ Select and use appropriate units of measurement; measure to a required degree of accuracy, and record results.
- Estimate and use measuring devices with standard and non-standard units to measure length, surface area, liquid volume, capacity, temperature, and weight, communicating the concepts of more, less, and equivalent.
- ✔ Read, write, and use money notation determining possible combinations of coins and bills to equal given amounts.
- ✔ Tell time to the nearest minute, using analog and digital clocks, and identify elapsed time.

Standard 4: *Spatial Relationships and Geometry*
Students will develop their ability to solve problems, communicate, and make connections within and beyond the field of mathematics. Students will identify, represent, verify, and apply spatial relationships and geometric properties.

Grade 3 Progress Indicators

By the end of Grade 3, students know and are able to do everything required in the previous grades and:

- ✔ Describe, sketch, compare, and contrast plane geometric figures.
- Demonstrate and describe the motion (transformation) of geometric figures as a slide, rotation, or a flip.
- Compare, contrast, sketch, model, and build two- and three-dimensional geometric figures and objects.

Standard 5: *Data Analysis*
Students will develop their ability to solve problems, communicate, reason, and make connections within and beyond the field of mathematics. They will collect, organize, display, interpret, and analyze data to determine statistical relationships and probability projections.

Grade 3 Progress Indicators

By the end of Grade 3, students know and are able to do everything required in the previous grades and:

- ✔ Collect, organize, display, and describe simple data using number lines, pictographs, bar graphs, and frequency tables.
- ✔ Use concepts of probability (e.g., impossible, likely, certain) to make predictions about future events.

THE NEVADA CRITERION REFERENCED TESTS

The Nevada Criterion Referenced Tests (CRT) in mathematics are designed to assess students' proficiency with respect to the 1998 Nevada K-12 Standards for Mathematics Education. A framework reference and an item specification matrix are used to guide the development of the Nevada CRT assessments. The framework and matrix are based on the commonality of the content and goals of the Nevada K-12 Standards for Mathematics Education, the National Assessment of Educational Progress (NAEP), and the National Council of Teachers of Mathematics (NCTM) Curriculum and Evaluation Standards for Mathematics. The Nevada CRT framework document is available for review on the Nevada Department of Education website at http://www.nde.state.nv.us

The CRT framework calls for assessment items in four mathematics content clusters based on the three cognitive ability domains suggested by the NAEP assessment framework (conceptual understanding, procedural knowledge, and problem-solving skills) and the priorities set forth in the Nevada K-12 Standards for Mathematics Education.

The following charts show the Ability Levels (Cognitive Domains) and Content Clusters that are reported on the mathematics assessments.

Ability Levels (Cognitive Domains)

A1 – Conceptual Understanding
A2 – Procedures
A3 – Problem Solving

Content Clusters

C1 – Numbers and Operations (Standard 1)
C2 – Algebra and Functions (Standard 2)
C3 – Measurement and Geometry (Standards 3 & 4)*
C4 – Data Analysis, Statistics and Probability (Standard 5)

*Approximately half of the items in Content Cluster 3 (C3) are from Standard 3 (Measurement) and the other half are from Standard 4 (Geometry).

To demonstrate conceptual understanding (A1), students should show that they are able to:

- Recognize, label, and generate examples and/or non-examples of concepts.
- Use and interrelate models, diagrams, manipulatives, and varied representations of mathematical concepts.
- Use and apply mathematical facts and definitions.
- Identify and apply principles (e.g., provide and recognize valid statements generalizing relationships among concepts in conditional form).
- Compare, contrast, and integrate related concepts and principles to the nature of the concepts and principles.
- Recognize, interpret, and apply the signs, symbols, and terms used to represent concepts.
- Interpret assumptions and relations involving concepts in mathematical settings.

To demonstrate procedural knowledge (A2), students should show that they are able to:

- Select and appropriately apply correct procedures.
- Verify or justify the correctness of a procedure using concrete models or symbolic methods.
- Extend or modify procedures to deal with factors inherent in problem settings.
- Apply numerical algorithms appropriately to specific mathematical situations or settings.
- Perform non-computational functions such as rounding and ordering.
- Describe why a particular procedure will give a correct answer for a problem in a specific context or defined situation.

To demonstrate problem-solving skills (A3), students should show that they are able to:

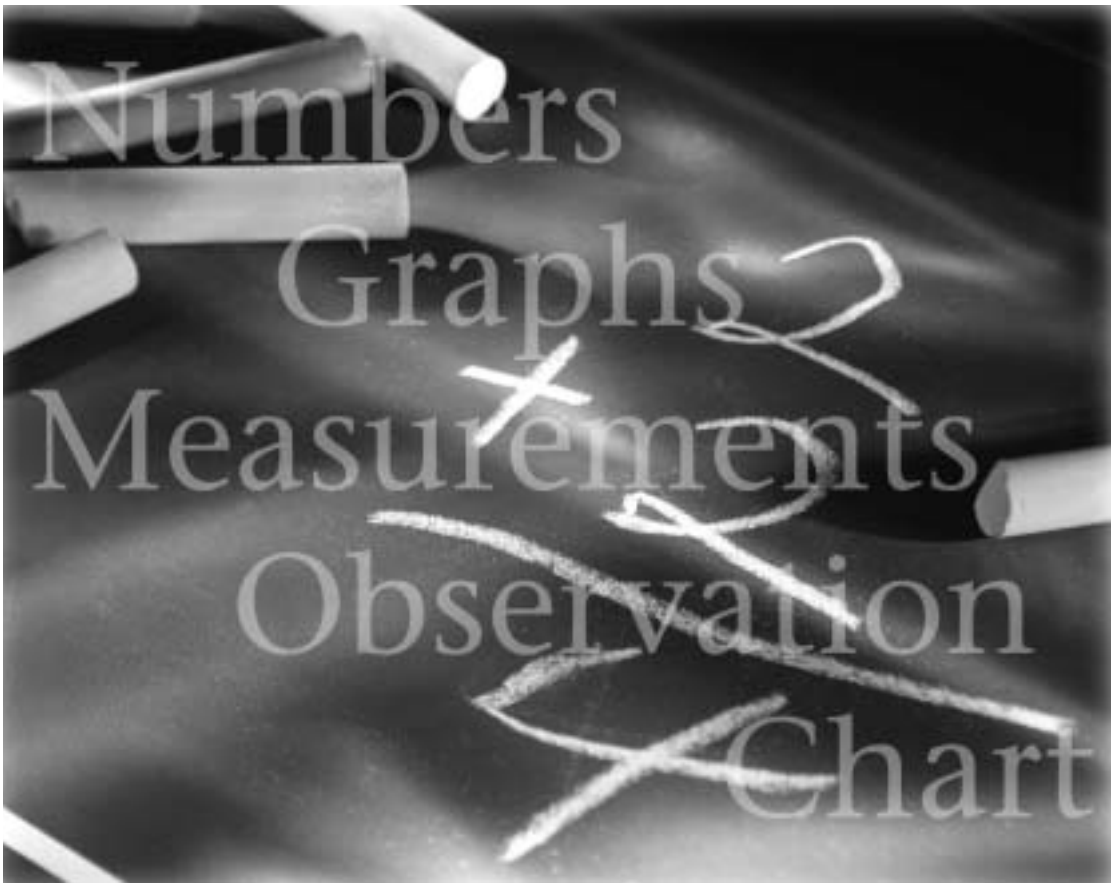
- Correctly apply their accumulated knowledge of Mathematics in new situations.
- Recognize and formulate problems.
- Determine the efficacy and relevance of data or information in problem-solving situations.
- Use combinations of strategies, data, models, and procedures to answer questions.
- Use reasoning in new settings.
- Judge the reasonableness and correctness of solutions.

The matrix that follows explains the configuration of the mathematics examination at grade 3.

CRT Grade 3 Mathematics Examination Item Matrix

Content Cluster/ Ability Level (Cognitive Domain)	C1 Numbers and Operations (Standard 1)	C2 Algebra and Functions (Standard 2)	C3 Measurement and Geometry (Standards 3&4)*	C4 Data Analysis: Statistics & Probability (Standard 5)	Total Items	Percent
A1 Conceptual Understanding	5	4	5	4	18	40
A2 Procedures	4	3	3	2	12	27
A3 Problem Solving	5	2	5	3	15	33
Total Items	14	9	13	9	45	
Percent	31	20	29	20		100

*Approximately half of the items in Content Cluster 3 (C3) are from Standard 3 (Measurement) and the other half are from Standard 4 (Geometry).


Numbers
Graphs
Measurements
Observation
Chart

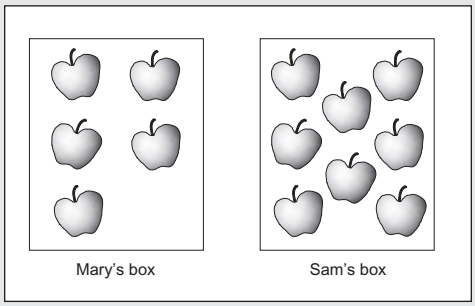
Reporting Category: C1 – Numbers and Operations

Ability Level: A1 – Conceptual Understanding

Performance Indicator: Immediately recall and use addition, subtraction, and multiplication facts to 81.

Test Item:

The pictures below show the number of apples Mary and Sam each picked from a tree and put into a box.



How many more apples did Sam pick than Mary?

A 3 apples

B 5 apples

C 8 apples

D 13 apples

Correct Response A: The student should be able to recall subtraction facts.

Sam has 8 apples.

Mary has 5 apples.

8 – 5 = 3 apples.

Response B: This response is incorrect. It represents an error in which the student may have not known the subtraction fact correctly or may have counted the apples in Mary's box and given that as the correct answer.

Response C: This response is incorrect. It represents an error in which the student may have not known the subtraction fact correctly or may have counted the apples in Sam's box and given that as the correct answer.

Response D: This response is incorrect. It represents an error in which the student may have decided this was an addition problem and used the addition fact 5 + 8 = 13.

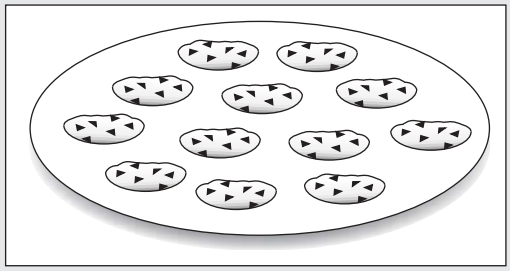
Reporting Category: C1 – Numbers and Operations

Ability Level: A2 – Procedural Skills

Performance Indicator: Model, sketch, and label fractions with denominators to 10; write fractions with numbers and words.

Test Item:

What number is $\frac{1}{3}$ of the cookies on this plate?



A 3

B 4

C 6

D 12

Correct Response B: The student should understand that one-third means one out of every three. There are 3 groups of 4 cookies (or 12 cookies) on the plate. Therefore, one group of cookies out of 3 groups of cookies is equivalent to 4 cookies.

Response A: This response is incorrect. It represents an error in which the student found one-fourth of the cookies on the plate.

Response C: This response is incorrect. It represents an error in which the student found one-half of the cookies on the plate.

Response D: This response is incorrect. It represents an error in which the student found the total number of cookies on the plate.

Reporting Category: C1 – Numbers and Operations

Ability Level: A3 – Problem Solving

Performance Indicator: Generate and solve two-step addition and one-step multiplication problems based on practical situations using pencil and paper, mental computation, and estimation.

Test Item:

Miguel bought a game for $3.74, and a ball for $2.03. How much money, **rounded to the nearer dollar**, did he spend?

A $2.00

B $4.00

C $5.00

D $6.00

Correct Response D: The student should be able to round the prices to the nearer dollar before finding the sum.

$3.74 rounds up to $4.00 and $2.03 rounds down to $2.00.

Then, $4.00 + $2.00 = $6.00.

Response A: This response is incorrect. It represents an error in which the student may have rounded only one price.

$2.03 ≈ $2.00.

Response B: This response is incorrect. It represents an error in which the student may have rounded only one price.

$3.74 ≈ $4.00.

Response C: This response is incorrect. It represents an error in which the student may have rounded both prices down to the next dollar so that

$3.00 + $2.00 = $5.00.

Reporting Category: C2 – Algebra and Functions

Ability Level: A1 – Conceptual Understanding

Performance Indicator: Identify missing terms and missing numbers in open number sentences involving number facts in addition and subtraction.

Test Item:

What number makes this number sentence true?

23 + ☐ = 57

A 23

B 34

C 40

D 80

Correct Response B: The student should be able to apply the subtraction algorithm for two-digit numbers in this question.

57 – 23 = 34

Response A: This response is incorrect. It represents an error in which the student may have selected a number that appears within the question itself.

Response C: This response is incorrect. It represents an error in which the student may have rounded 57 to 60 and 23 to 20, and then found the difference.

60 – 20 = 40

Response D: This response is incorrect. It represents an error in which the student may have found the sum of 57 and 23.

57 + 23 = 80

Reporting Category: C2 – Algebra and Functions

Ability Level: A2 – Procedural Skill

Performance Indicator: Complete number sentences with the appropriate words and symbols for addition, subtraction, less than, greater than, and equal to (+, –, <, >, =).

Test Item:

Which symbol below should go in the box to make this number sentence true?

20 – 17 ☐ 10 – 7

A +

B >

C <

D =

Correct Response D: The student should know the subtraction algorithm and subtraction facts and be able to relate those facts by using the appropriate symbol.

20 – 17 = 3 and 10 – 7 = 3 and 3 = 3

Therefore, 20 – 17 = 10 – 7.

Response A: This response is incorrect. It represents an error in which the student chooses a symbol that does not create a number sentence. The + symbol just adds a third operation to the two existing operations.

Response B: This response is incorrect. It represents an error in which the student believes that 20 – 17 is greater than 10 – 7 or does not know the meaning of the symbol.

Response C: This response is incorrect. It represents an error in which the student believes that 20 – 17 is less than 10 – 7 or does not know the meaning of the symbol.

Reporting Category: C2 – Algebra and Functions

Ability Level: A3 – Problem Solving

Performance Indicator: Recognize, describe, and create patterns using numbers; use number patterns and their extensions to solve problems.

Test Item:

Which rule below **best** describes this skip counting pattern?

100, 95, 90, 85, 80, 75, 70, 65,…

A Add 5 to each number to get the next number.

B Subtract 5 from each number to get the next number.

C Multiply each number by 5 to get the next number.

D Divide each number by 5 to get the next number.

Correct Response B: The student should be able to recognize and describe with words the pattern shown in the question. Each number after the first number is 5 less than the preceding number.

Response A: This response is incorrect. It represents an error in which the student may have read the number pattern from right to left or misunderstood the difference between the operations of addition and subtraction.

Response C: This response is incorrect. It represents an error in which the student may have misunderstood the difference between the operations of subtraction and multiplication.

Response D: This response is incorrect. It represents an error in which the student may have misunderstood the difference between the operations of subtraction and division.

Reporting Category: C3 – Measurement and Geometry

Ability Level: A1 – Conceptual Understanding

Performance Indicator: Select and use appropriate units of measurement; measure to a required degree of accuracy, and record results.

Test Item:

Which list shows the units below, in order from the largest to smallest unit?

pint, gallon, cup, quart

A cup, quart, gallon, pint

B cup, pint, quart, gallon

C gallon, quart, pint, cup

D gallon, pint, cup, quart

Correct Response C: The student should understand the concepts of more than (and less than) in the context of common units of measurement for the volume of a liquid.

The volume of a gallon is more than the volume of a quart, which is more than the volume of a pint, which is more than the volume of a cup.

Response A: This response is incorrect. It represents an error in which the student may not understand the relative sizes of the different units.

Response B: This response is incorrect. It represents an error in which the student may have ordered the units from smallest to largest.

Response D: This response is incorrect. It represents an error in which the student may not understand the relative sizes of the different units.

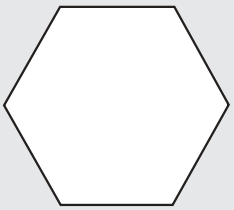
Reporting Category: C3 – Measurement and Geometry

Ability Level: A2 – Procedural Skills

Performance Indicator: Describe, sketch, compare, and contrast plane geometric figures.

Test Item:

Which pair of shapes below could you put together without overlapping to make this shape?



A 

B 

C 

D 

Correct Response C: The student should be able to visualize and build a two-dimensional geometric figure from other two-dimensional geometric figures. The two trapezoids shown, when aligned on their longest sides, form the regular hexagon shown at the top of the question.

Response A: This response is incorrect. The two shapes shown can be put together to make a triangle or a parallelogram, but not a regular hexagon.

Response B: This response is incorrect. The two shapes shown can be put together to make a rhombus, but not a regular hexagon.

Response D: This response is incorrect. The two shapes shown can be put together to make a composite shape, but not a regular hexagon.

Reporting Category: C3 – Measurement and Geometry

Ability Level: A3 – Problem Solving

Performance Indicator: Tell time to the nearest minute, using analog and digital clocks, and identify elapsed time.

Test Item:

A movie started at 7:15 PM. It lasted 1 hour and 45 minutes. At what time did the movie end?

A 9:15 PM

B 9:00 PM

C 8:45 PM

D 8:15 PM

Correct Response B: The student should be able to add hours and minutes to arrive at the time the movie ended.

7:15 + 1 hour and 45 minutes = 8:60 = 9:00

Response A: This response is incorrect. It represents an error in which the student may have rounded or mistaken 1 hour and 45 minutes for 2 hours. Then, 7:15 + 2 = 9:15.

Response C: This response is incorrect. It represents an error in which the student may not have included the 15 minutes from the 7:15 when finding the time the movie ended.

Response D: This response is incorrect. It represents an error in which the student may not have included 45 minutes from the 1 hour and 45 minutes when finding the time the movie ended.

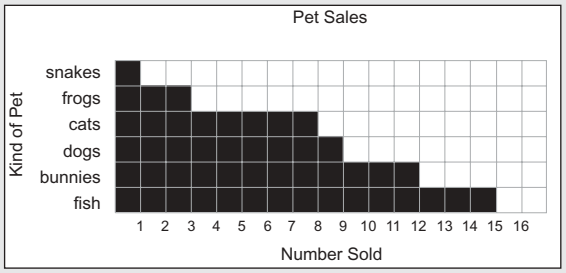
Reporting Category: C4 – Data Analysis and Probability

Ability Level: A1 – Conceptual Understanding

Performance Indicator: Collect, organize, display, and describe simple data using number lines, pictographs, bar graphs, and frequency tables.

Test Item:

The graph shows how many different pets were sold at Percy's Pet Store on a given day.



How many bunnies were sold?

A 5

B 11

C 12

D 15

Correct Response C: The student should be able to read data presented in the graph. Moving from left to right starting in the row labeled "bunnies" there are 12 boxes shaded. Each of those boxes represents one bunny sold. Therefore, 12 bunnies were sold.

Response A: This response is incorrect. It represents an error in which the student may have counted 5 unshaded boxes from right to left in the row labeled "bunnies."

Response B: This response is incorrect. It represents an error in which the student may have misread the number of shaded boxes.

Response D: This response is incorrect. It represents an error in which the student may have misread the label for kinds of pets and simply chosen the largest number.

Reporting Category: C4 – Data Analysis and Probability

Ability Level: A2 – Procedural Skills

Performance Indicator: Collect, organize, display, and describe simple data using number lines, pictographs, bar graphs, and frequency tables.

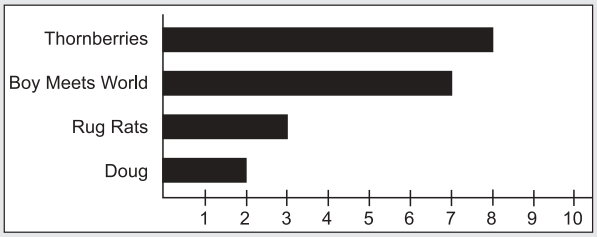
Test Item:

The students in Ms. Gomez's class tallied their favorite TV shows in the chart below.

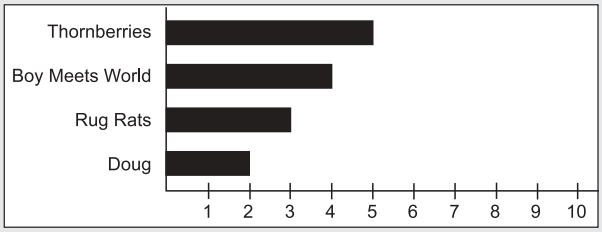
Thornberries	𝍸 III
Boy Meets World	𝍸 II
Rug Rats	III
Doug	II

Which bar graph below correctly shows the students' choices?

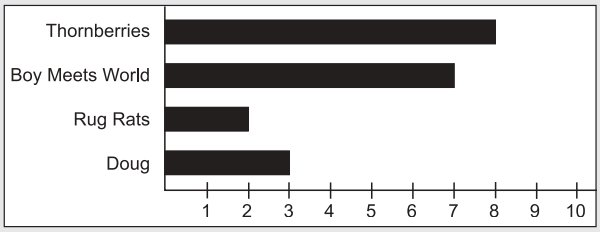
A



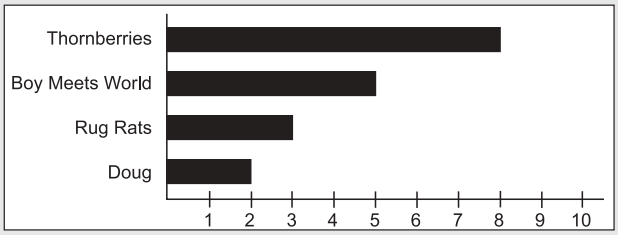
B



C



D



(Continued on next page)

Correct Response A: The student should be able to recognize data displayed accurately in more than one format.

8 students voted for the *Thornberries*.
7 students voted for *Boy Meets World*.
3 students voted for *Rug Rats*.
2 students voted for *Doug*.

These numbers match the numbers in the tally chart.

Response B: This response is incorrect. It represents an error in which the length of each bar is merely one less than the bar above it.

Response C: This response is incorrect. It represents an error in which the correct lengths of the bars for *Rug Rats* and *Doug* were reversed.

Response D: This response is incorrect. It represents an error in which the lengths of the bars in the graph do not match the numbers of students in the tally chart for *Boy Meets World*.

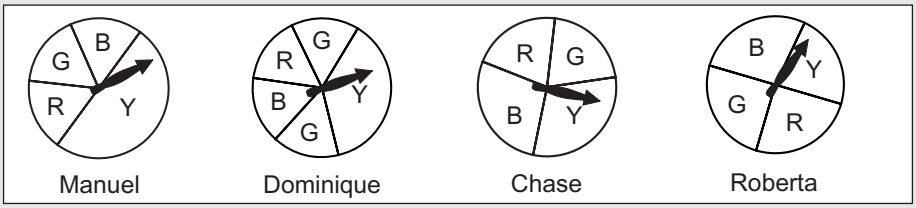
Reporting Category: C4 – Data Analysis and Probability

Ability Level: A3 – Problem Solving

Performance Indicator: Use concepts of probability (e.g., impossible, likely, certain) to make predictions about future events.

Test Item:

Manuel, Dominique, Chase, and Roberta each have a different spinner.



Which student's spinner is **least likely** to land on Y?

A Manuel's

B Dominique's

C Chase's

D Roberta's

Correct Response D: The student should understand that the probability of landing on a Y is related to the area of the section(s) of the spinner labeled Y. The less the total area of a spinner labeled Y the less likely the spinner will land on Y.

The area of the section of Roberta's spinner labeled Y appears to cover about one-fourth (or 25%) of the total area of her spinner. The area of the section labeled Y on the other three spinners appears to cover an area greater than one-fourth of each of those spinners. Therefore, Roberta's spinner is least likely to land on Y.

Response A: This response is incorrect. The area covered by the section labeled Y on Manuel's spinner appears to be about one-half of the total area of the spinner. Therefore Manuel's spinner is the most likely to land on Y.

Response B: This response is incorrect. The area covered by the section labeled Y on Dominique's spinner appears to be about one-third of the total area of the spinner.

Response C: This response is incorrect. The area covered by the section labeled Y on Chase's spinner appears to be more than one-fourth of the total area of the spinner.

MATHEMATICS SAMPLE TEST QUESTIONS

1 Which drawing below correctly represents one-fourth?

A 

B 

C 

D 

2 What number should go in the box to make this number sentence true?

243 + ☐ = 561

A 218

B 222

C 318

D 322

3 Jim bought **7 packs** of gum. There were **8 sticks** of gum in each pack. How many **sticks** of gum did Jim buy?

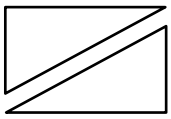
A 15

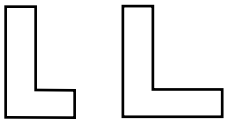
B 16

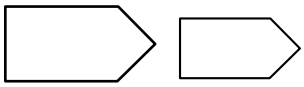
C 56

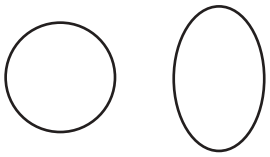
D 78

4 Which pair of figures below appears to be congruent?

A 

B 

C 

D 

5 Which is the best ESTIMATE for the problem

67 – 29 = ☐ ?

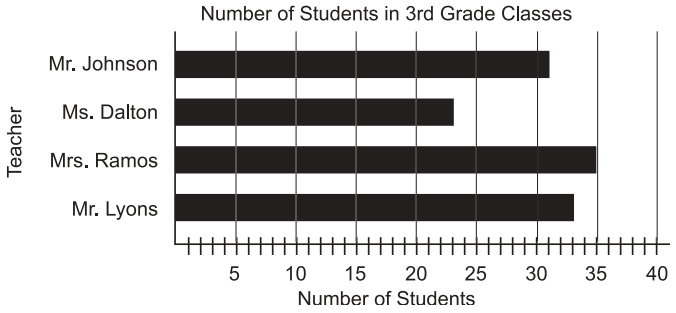
A 20

B 30

C 40

D 50

6 Which statement below is true for this graph?



A Mrs. Ramos has 35 more students than Mr. Johnson.

B Mr. Johnson has 12 more students than Ms. Dalton.

C Ms. Dalton has 2 less students than Mr. Lyons.

D Mr. Johnson has 2 less students than Mr. Lyons.

7 At his work, Mr. Brown puts wheels on new tricycles. How many wheels would he need for six tricycles? Use the table below to help you.

Number of Tricycles	1	2	3	4	5	
Number of Wheels	3	6	9	12	?	?

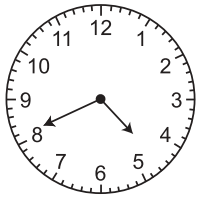
A 15

B 16

C 18

D 21

8



What time is shown on the clock?

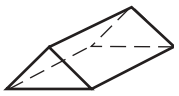
A 4:41

B 5:41

C 8:23

D 8:25

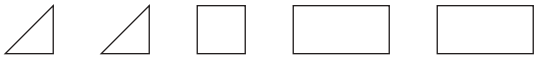
9 Look at the drawing of a triangular prism below.



Which set of pictures shows all the faces of the triangular prism?

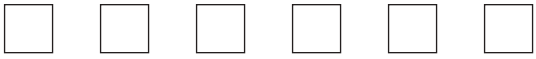
A

B



C

D



10 Jill opened four bags of candies to find how many of each color she had. Use the table to answer this question.

Number of Candies in Each Bag

Color / Bag	yellow	orange	green	blue	brown	red
A	9	4	5	5	20	13
B	7	8	9	7	19	8
C	10	5	7	4	19	12
D	7	8	2	6	23	13

What is the total number of candies in **Bag C**?

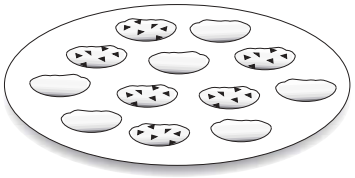
A 55

B 57

C 67

D 75

11 There are 12 cookies on the plate below. Six of the cookies are chocolate chip. What fraction of the total cookies on the plate are chocolate chip?



A $\frac{3}{12}$

B $\frac{1}{3}$

C $\frac{2}{6}$

D $\frac{6}{12}$

12 Which symbol should go in the circle to make this number sentence true?

78 ❍ 21 = 99

A +

B –

C >

D <

13 Which number phrase shows how many eyes 8 dogs should have?

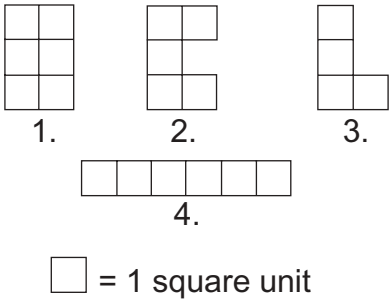
A 2×4

B 2×8

C $8 + 2$

D $8 + 4$

14 Which two shapes shown below have the same area?



A shapes 1 and 3

B shapes 1 and 4

C shapes 2 and 3

D shapes 2 and 4

15 Don has twelve frozen fruit bars in his freezer. Three of the bars are raspberry-flavored, two are strawberry-flavored, five are orange-flavored, and the rest are lemon-flavored. Which describes how likely it would be for Don to randomly select a lemon-flavored bar from the freezer on his first try?

A certain

B very likely

C not likely

D impossible

MATHEMATICS TEST ANSWER KEY

Item Number	Reporting Category	Ability Level	Answer Key
1	C1	A2	B
2	C2	A1	C
3	C1	A3	C
4	C3	A1	A
5	C1	A2	C
6	C4	A3	D
7	C2	A3	C
8	C3	A1	A
9	C3	A3	A
10	C2	A1	B
11	C1	A2	D
12	C4	A1	A
13	C1	A1	B
14	C3	A2	B
15	C4	A3	C

1 2 3 4 5 6 7 8 9 10 11 12 A B C D E

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